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THE BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES  
VOL. IX



Med. Biological  
& Medical  
Serials

100

# THE BRITISH JOURNAL OF CHILDREN'S DISEASES

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EDITED BY  
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VOL. IX

21005/  
4.4.27

London  
ADLARD AND SON, BARTHOLOMEW PRESS  
BARTHOLOMEW CLOSE, E.C.  
1912

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THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

JANUARY, 1912.

No. 97.

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**Original Articles.**

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PURPURA IN INFECTIVE DIARRHŒA.\*

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SYMPTOMATIC purpura in infective diarrhœa of infants has not attracted much attention. Diarrhœa is mentioned incidentally by John Thomson (4) among the cachectic conditions which may cause purpura. As two well-marked examples of extensive purpura in infants semi-comatose as the results of infective diarrhœa happened to come under observation on the same day, we analysed the notes of 100 cases of severe infective diarrhœa with reference to this point. The cases were sufficiently severe to be admitted to the wards of the Victoria Hospital for Children, but otherwise were unselected; about two thirds of them were seen during the past summer. This analysis was made before we had seen Voelcker's paper "On Purpura in Children," (5) in which he comes to much the same conclusions.

\* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on November the 24th, 1911.

Of the 100 cases (fifty-six males with an average age of 8 months, and forty-four females with an average age of 7·36 months), sixty-seven (thirty-six males, average age 7 months, thirty-one females, average age 6·2 months) proved fatal, and thirty-three (twenty males, average age 9·4 months, thirteen females, average 10·2 months) recovered. Purpura occurred in eleven (six male, five female) cases, all of which were fatal. Of the sixty-seven cases 16·4 per cent. showed purpura. The average age of the eleven cases was  $8\frac{1}{3}$  months, the extremes being 1 month and 28 months. All but two cases (28 months and 12 months) were under 11 months of age; and, exclusive of the girl aged 28 months, the average age works out at 6·2 months. None of the purpuric cases showed œdema. Among the 100 cases there was one case with œdema of the hands and feet which recovered; and two fatal cases (without purpura) showed "septic" rashes.

*Site of the purpura.*—In one of the eleven cases the situation is not recorded. In eight the eruption occupied the skin of the abdomen, more especially of the lower part, and in four of these the thorax was also affected; in one of the latter there were hæmorrhages on the arms, legs, and head. In one instance the thorax alone was affected, and in another the head only was involved. It is an interesting question why the purpura occurs on the trunk and avoids the extremities where ordinary purpura is more commonly seen. Possibly the absence of the extravasation on the extremities is connected with the exhausted condition of the circulation in these patients, and an extremely low blood-pressure in the peripheral vessels. It is conceivable that with a higher blood-pressure the purpura would be universal. In addition, from the horizontal position of the infants the force of gravity does not favour purpura of the legs as it does in patients who are up. After this paper was read Dr. R. S. Trevor suggested to us that the distribution of the purpura on the lower part of the abdomen might be influenced by the presence and frequent changing of napkins.

Usually the hæmorrhages are small, but they may be so closely set as to make the skin of the abdomen almost uniformly purple when seen from a distance. In a case under the care of Dr. E. I. Spriggs, to whom we are much indebted for its use, there were large hæmorrhages two inches in length on the chest; from the heart's blood of this case Dr. H. R. Dean, of the Lister Institute, isolated *Bacillus enteritidis* Gaertner in pure culture. The average duration of the diarrhœal disease in the cases with purpura was forty-one days, the extremes being two days and eighty days, but in

all except one case the duration was more than two weeks. The purpura was usually a late phenomenon and appeared on an average on the thirty-fourth day, that is, a week before death. It is therefore connected with cachexia rather than acute infection or toxæmia. Though usually seen shortly before death, in one instance six hours before, the purpura is not always terminal: in one patient the rash disappeared and the child improved, but the diarrhœa returned and proved fatal two weeks after the eruption had vanished. In another case there were three crops of purpura, seventeen, eight and two days before death respectively.

Special note was taken to see if transfusion or the administration of horse or other serum could have had any influence in causing the purpura. But in most instances the appearance of the purpura preceded transfusion or the use of serums.

Our cases do not suggest any close relation between purpura and the œdema which sometimes occurs in children after gastro-enteritis (Fairbanks (2), Dewolf (1), Hume (3), and others). It would not be unreasonable to suppose that if intestinal toxæmia gives rise to œdema a more severe toxæmia would induce hæmorrhages, and that a case might first show œdema and later purpura as the toxæmia became progressively more severe. The suggestion that purpura is due to a hæmic infection is attractive, but we have little proof to offer, as bacteria were only found in the blood in one case—that mentioned above. In one case only was there evidence of infantile scurvy. Our notes do not justify any expression of opinion on the question whether or not renal insufficiency plays any part in the production of purpura.

*Prognosis.*—As judged by our eleven cases of purpura, all of which were fatal, the prognosis is extremely grave. Voelcker, however, says that it is by no means necessarily a fatal sign, and the events already described in two of our cases suggest that recovery might occur.\*

#### CONCLUSIONS.

- (1) Symptomatic purpura in infective diarrhœa mainly occurs on the abdomen and chest of infants under the age of one year.
- (2) It is usually a terminal phenomenon in prolonged cases.
- (3) The prognosis in these cases is extremely grave.

\* In a case which came under observation after this paper was written, recovery occurred after a single hæmorrhage, the size of half-a-crown, had appeared under the skin of the abdomen between the umbilicus and the pubes.

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## MORTALITY AND MORBIDITY IN HEREDITARY SYPHILIS.

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THE mortality and morbidity resulting from the transmission of syphilis from parents to offspring were studied some years ago by Fournier; more recently Hochsinger and Leroux have added important contributions to our knowledge of this subject.

Fournier's statistics, based chiefly on cases observed in private practice, were as follows:

	Mortality.	Morbidity.
Paternal transmission . . . . .	28 per cent.	37 per cent.
Maternal       " . . . . .	60       "	84       "
Mixed         " . . . . .	68·5   "	92       "

The mortality and morbidity thus vary approximately in the same ratio, but differ according to the origin of the disease, being least in congenital syphilis of paternal origin, greater in that of maternal origin, and greatest when the disease is transmitted by both parents.

Leroux has recently published the results of his observations on heredo-syphilis at the Furtado-Heine Dispensary, Paris. His statistics of mortality are approximately the same as those of Fournier.

Syphilitic heredity manifests itself in four ways: (1) In the form of polymortality (foetal, early or late); (2) as virulent or active heredo-syphilis (early or late); (3) as dystrophic heredo-syphilis, or heredo-parasyphilis; (4) as syphilitic heredity without symptoms.

These manifestations differ somewhat according to the origin of the disease, whether paternal, maternal or mixed, but more considerably according to the age of the disease.

*Differences according to origin of disease.*—(1) Paternal transmission more often gives rise to late heredo-syphilis and heredo-para-



syphilis than to virulent early heredo-syphilis, although the latter occurs when the disease in the father is recent; but the duration of virulence is shorter in the father than in the mother. Paternal transmission gives rise to more healthy infants. (2) Maternal transmission, on the other hand, causes more cases of virulent heredo-syphilis and the virulence diminishes more slowly than in the case of paternal syphilis. Heredo-parasyphilis is less common. In both paternal or maternal syphilis virulent and dystrophic symptoms may be present at the same time. (3) In mixed transmission polymortality is more frequent and prolonged, virulent symptoms generally more severe, and heredo-parasyphilis more common than in pure maternal transmission.

*Differences according to age of disease.*—It is obvious that the more recent the disease in the parent or parents, the more frequent are virulent manifestations likely to be in the offspring. The first-born generally suffer from virulent heredo-syphilis, later children from late heredo-syphilis or parasyphilis. However, transmission of the disease varies both in nature and intensity in different pregnancies. Healthy or only slightly affected children sometimes alternate with others who are profoundly affected—a fact which is difficult to explain.

The age of the parental disease explains the greater virulence of heredo-syphilis of maternal origin. Maternal syphilis is generally more recent than paternal; hence the former causes more virulent heredo-syphilis and the latter more dystrophic phenomena, or parasyphilis.

*Effect of treatment.*—The influence of treatment is another factor in the greater virulence of heredo-syphilis of maternal origin, for while the father usually receives treatment before marriage, the mother, if she contracts syphilis, is frequently untreated owing to ignorance, neglect, or both.

As regards the effect of treatment on the offspring, most cases of active heredo-syphilis, both early and late, can be cured by mercurial treatment, but this treatment should be prolonged for two years at least. It is bad practice to treat congenital syphilis during the presence of symptoms only. This is often due to the incomplete education of the doctor in syphilology, but more often, perhaps, to the neglect of parents. On the other hand, the dystrophies of heredo-syphilis, or parasyphilitic phenomena (including many incurable nervous and mental affections), are not influenced by mercurial treatment.

Hochsinger gives the following statistics of cases treated at the

Children's Hospital, Vienna, and followed up for several years afterwards. Out of 516 births of syphilitic infants 253 were born dead or died soon after birth. Of the 263 which survived, 55 died before the age of four years in spite of specific treatment. Of the 208 remaining, 51 remained healthy. Hochsinger hence concludes that only about 25 per cent. of syphilitic infants grow up into comparatively normal adults. As regards treatment, he finds that relapses in the children are rare during the first year of life when the parents are submitted to intensive treatment.

In order, therefore, to effect the cure of syphilitic heredity it is necessary to treat the parents. The chief difficulties are ignorance and neglect. A man who has had syphilis should not marry till he has undergone at least two years' treatment, and even then only when two years have elapsed without symptoms. If this is impossible he should continue treatment after marriage. If the wife becomes infected she must be treated during the whole of pregnancy, and during subsequent pregnancies if the first child shows signs of syphilis. Any child showing signs of congenital syphilis at or soon after birth should be treated for two years. It is probable that if all syphilitic infants received such prolonged treatment we should see less of the signs of late heredo-syphilis and parasyphilis. By such means, if the parents can be sufficiently educated to realise the gravity of the situation and the importance of prolonged mercurial treatment, syphilitic heredity may be modified, attenuated, or even extinguished.

Unfortunately the public have recently been "educated" in the wrong direction, owing to the blatant advertisement in the lay press and elsewhere of a new drug (salvarsan, or "606"), which was stated to cure syphilis in one or two doses. It is now well known that this drug has not fulfilled its expectations, and there is no proof that it cures syphilis. On the other hand, it has caused many deaths, some in healthy persons, and on this account Hallopeau and others recommend that its use should be abandoned, like that of atoxyl and arsacetin. Other authorities regard it as useful in certain cases which do not react to mercury and iodides, but, as Gaucher remarks, such cases are very rare.

Nearly all authorities now recommend the usual prolonged mercurial treatment in addition, so that we may well ask why the older preparations of arsenic such as Donovan's solution, which are free from danger, should be abandoned in favour of a drug which may cause the death of healthy persons.

There is little doubt that, owing to the manner in which the

public have been misled by premature reports of cures by salvarsan, many persons infected with syphilis have abandoned prolonged mercurial treatment and have suffered in consequence. Instead of realising the Utopian idea of banishing syphilis from the face of the earth, it is highly probable that salvarsan has caused an appreciable increase both in the amount and severity of that disease.

It is to mercury that we must look for the cure of syphilis and syphilitic heredity. In the present state of our knowledge there is no short cut to salvation by a few injections of salvarsan or any other drug, nor is it likely that such a chronic infection as syphilis can thus be juggled.

*Postscript.*—It will be noticed that in this article the occurrence of pure paternal syphilis by spermatic infection of the ovum has been assumed. As this is a view which has been much controverted, especially since the discovery of the spirochæta and the Wassermann reaction, I hope to deal with it in a subsequent article.

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## A CASE OF MYATONIA CONGENITA.

By J. R. CHARLES, M.A., M.D., M.R.C.P.,

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THE disease myatonia congenita is sufficiently rare to make the following case worth recording.

The patient is a boy, aged 6 years. There is nothing of importance in the family history. No history of consanguinity. The boy is the eldest of the family. There are four other children, three of whom are healthy; one is said to have a gland in his neck. There is no history of any nervous disease, insanity or epilepsy in the family, or any condition similar to this. The patient was a full-term child; the health of the mother during pregnancy was good. Fœtal movements were felt during pregnancy. The labour was normal; no forceps were used. There was no rash or snuffles at birth. A congenital inguinal hernia was present on both sides.

The present condition of muscles and hands has been in existence from birth.

He cut his first tooth at three months and began to walk and



talk when two years old. He had a few convulsions when cutting his teeth. He was breast-fed for nine months and then put on patent foods. He has had no illnesses from birth till the present time. He has a good memory, is usually good tempered, sleeps well, plays with other children normally, and is well developed intellectually for his age.



FIG. 1.

The special senses, speech and articulation are all normal. There is no evidence of any involvement of any of the muscles supplied by the cranial nerves. No myopathic facies.

There is the extreme atonic condition of the muscles of the arms and legs and to a less extent those of the trunk. He sits in bed with a certain degree of kyphosis, but can straighten his back if he tries. There is considerable weakness in all the muscles of the arms, this being most marked in the distal parts. The laxity



of muscles and ligaments around the wrist-joints allows a partial dislocation. The hands and fingers are extremely flail-like, and can be bent backwards and forwards into grotesque positions (Figs. 1 and 2). The grip is fair. There is no fibrillation. When



FIG. 2.

lying on his back he can raise himself into a sitting posture without the use of his arms.

The diaphragmatic movements appear good. A condition exists in the legs very similar to that in the arms. The same flail-like condition is noted. Partial dislocation of the knee-joints is easily obtained. The atonic condition is again most marked in the distal

portions of the limbs. Owing to the laxity of the muscles around the feet these are completely flattened, and the weight of the body is not borne by the heel but by a point some one and a half inches anterior to this (Fig. 3).

He can walk with a waddling gait on a broad base.

There is no reaction of degeneration in any of the affected muscles, but faradic irritability appears slightly diminished in some. The triceps jerks are not obtained; the wrist-jerks can be



FIG. 3.

elicited; the knee-jerks are present; plantar reflexes flexor. Sphincters normal; sensory system normal.

The cranium is large, the forehead high, and there is some elongation of the head. Antero-posteriorly there appears to be considerable bony thickening along the line of the sutures; this, however, is not obvious in a skiagram. There is nothing of any importance to record in the condition of the heart, lungs, or in the abdomen.

There is no lymphatic enlargement. The thyroid gland is not enlarged. Although the head is large, there are no evidences of rickets in the thoracic or other bones.

This case manifests practically all the characteristics of myatonia congenita in a mild form.

Collier and Holmes thus describe the main points of the complaint, contrasting it with the myopathies :

(1) An absence of familial tendency.

(2) An absence of any familial ætiological relation with the myopathies.

(3) The disease is almost always congenital, but in a small minority of cases it appears suddenly and in fully developed form after certain acute illnesses.

(4) The local wasting and weakness of an individual muscle, or of a group of muscles, which is characteristic of all forms of myopathy, is not met with in myatonia congenita.

(5) The affection of the periphery of the limbs, and especially of the intrinsic hand muscles, is the invariable rule in myatonia (and the greatest rarity in myopathies).

(6) Myatonia never spreads to regions previously unaffected. Slow spreading is characteristic of myopathies.

(7) The deep reflexes are absent from the first in myatonia. In myopathy they are present at first and then slowly diminish, and are lost as the affection of the muscles concerned increases.

(8) The deep reflexes may appear in myatonia when improvement occurs, and, having appeared, remain permanently. In myopathy the deep reflexes never reappear after disappearance.

(9) Some of the recorded cases of myatonia have shown a tendency to improve progressively, and thus improvement may reach a stage of practical recovery.

F. E. Batten, in a critical review of the myopathies, calls into question many of these points of contrast, and incidentally remarks that in many cases of myatonia the condition has been one of progressive deterioration.

The marked hypertonicity of the muscles seems, however, to be a feature definitely separating the condition from myopathy, a view which is favoured by French writers.

Up to the present there have not been many autopsies in these cases. In one case no change was found in the central nervous system.

In some cases, however, the motor cells of the ventral horns have been much reduced in number, appearing in one case to be scarcely a third of the normal number of cells, while those which were present were smaller, more angular and more irregular than normal. The ventral roots were smaller than normal.

The muscles may be partially replaced by fat, and contain a considerable excess of fibrous tissue. Some of the muscle-fibres have been found normal, but many of the fibres have been extremely small. Transverse striation was well marked in them. A few of the fibres have been of enormous size (measuring 100 to 150  $\mu$  in diameter). Some of the large fibres have been seen on longitudinal section to be splitting into apparently well-formed fibres of small calibre provided with a normal sarcolemmal sheath and nuclei. A few were vacuolated, and some contained central nuclei. There was a thickening of the walls of the blood-vessels by a periarteritis and some proliferation of the internal cells. Changes in the thymus and thyroid have been described, but as these changes gave rise to no clinical evidence of their presence during life, and as similar changes have been absent in other cases, it is probable that their presence was fortuitous.

I have to thank Mr. James Taylor, who is in charge of the X-ray Department of the Bristol Royal Infirmary, for the excellent skiagrams and photographs which he has kindly taken of this case.

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### DIPHTHERIA OF THE ŒSOPHAGUS.\*

By J. D. ROLLESTON, M.D.,

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A BOY, aged 2 years and 4 months, was admitted moribund to the Grove Fever Hospital on October the 14th, on the eleventh day of disease, and died in seven hours. No antitoxin had been given, diphtheria not having been diagnosed until the day of admission.

*Condition on admission.*—Profound toxæmia, pulse imperceptible; temperature 97·6° F. Old membrane visible on tonsils, uvula and epiglottis. Pronounced oral fœtor, profuse blood-stained nasal discharge. Upper part of right ear swollen and excoriated.

\* Specimens of the case were shown at the Section for the Study of Disease in Children of the Royal Society of Medicine, on October the 27th, 1911.



Sloughing wound just below left external malleolus. Cultures of the throat, ear, and wound all showed numerous Klebs-Loeffler bacilli.

At the necropsy the tonsils, pillars, uvula, pharynx, epiglottis, aryepiglottidean folds, and interior of larynx showed remains of membrane or varying degrees of necrosis. The loss of substance was most marked in the aryepiglottidean folds and in the left side of the pharynx in which part of the mucous membrane was destroyed and the muscular wall exposed. The mucosa lining the



Diphtheria of the œsophagus. (From a drawing by M. E. Waring.)

arytenoid and thyroid cartilages showed only minute and superficial areas of ulceration. The trachea was normal.

The œsophagus in its upper third was apparently normal, the middle third presented some injection of the mucosa, and in the lower third were two longitudinal areas of necrosis, 3.5 cm. each in length, coalescing below, where they measured 2.2 cm. in width, and stopping just short of the lower end of the œsophagus (*vide* Fig.). In the centre of one of the areas the muscular wall was exposed. No diphtheritic membrane was left, but direct smears and cultures from the necrotic areas showed numerous diphtheria bacilli.

Histological examination showed destruction of the epithelium, engorgement of the vessels, and considerable round-celled infiltration in the submucous layer extending into the muscular coat. The stomach was normal. The heart and kidneys showed some fatty change, and there were some hæmorrhages in the mesentery. No lesions in the other organs were found.

Involvement of the œsophagus in diphtheria is a rare event. When it does occur it is usually associated with multiple lesions elsewhere, as in the present case, in which the fauces, nostrils, pharynx, larynx and skin were also affected. The condition cannot be diagnosed during life except by expulsion of a cast of the œsophagus, or by subsequent development of œsophageal stricture in cases which survive. As a rule, as in this case, it is a necropsy surprise.

The Museum of the Royal College of Surgeons has hitherto contained only two specimens of the kind, the one presented by Dr. Goodhart in 1875 (No. 2292 in Catalogue), and the other by Dr. E. W. Goodall in 1896 (No. 2292A). The specimens of the present case have since been added.

On the other hand, it is probable that if a systematic examination of the œsophagus was made post mortem in every case of diphtheria, membrane would be found more frequently in this situation. Thus among 251 necropsies in diphtheria cases reported by Mallory, definite membrane was found in the œsophagus in twelve cases, or 4·7 per cent. The literature of the subject shows that the diagnosis of diphtheria of the œsophagus was much more frequently made in the pre-bacteriological era than at present, often, indeed, on purely clinical grounds, such as difficulty of swallowing or vomiting, as in cases reported by Greenhow, Burdon Sanderson and Gull. My own case had great difficulty in swallowing, but not more than is usually found in severe faucial and laryngeal diphtheria.

Although post-mortem evidence was present in the cases reported by such well-known authorities as Bretonneau, Bristowe, Jacobi, Jenner, Morell Mackenzie, and Sanné, who may be accredited with a correct diagnosis in spite of the absence of bacteriological confirmation, it is not improbable that some of the early cases in which membrane was found in the œsophagus at the necropsy were due to the action of concentrated hydrochloric acid, which was once much in vogue for the local treatment of diphtheria.

In some of the other cases the disease may have been not diphtheria but scarlet fever, in severe forms of which œsophageal necrosis is an occasional sequela. Thus in a series of 128 scarlet

fever necropsies œsophageal ulcers were found in fifteen cases (Oppikofer).

H. D. Fry, of Washington, in 1885 collected fourteen cases of diphtheria of the œsophagus, including one of his own. In seven diphtheria was the primary disease, and in seven it was secondary to scarlet fever, pneumonia, tuberculosis, or other diseases. The membrane involved the œsophageal mucosa either as a tubular lining, or in bands prolonged to the cardia in seven cases. Only two of the fourteen expelled an œsophageal cast.

Since the publication of Fry's paper, which appeared prior to the general recognition of the diphtheria bacillus; I can find records of only eight cases, exclusive of those reported by Mallory. In five the diagnosis was established on bacteriological grounds and post-mortem findings (Goodall, Cautley, Fawcett, Leathem, Field), only one of which (Field's case) expelled an œsophageal cast before death, and in three which recovered the diagnosis was based on the presence of an œsophageal stricture which developed shortly after an attack of diphtheria (Korczynski, Jungnickel, Danielsen). In Korczynski's case perforation of the œsophagus occurred, as shown by the sudden appearance of surgical emphysema in the neck. In Cautley's and Leathem's cases membrane was also found in the stomach post mortem, and in Korczynski's case the frequent hæmatemesis and persistent pain in the epigastrium suggested a gastric ulcer of diphtheritic origin.

A striking feature in the present case was the marked destruction of tissue which was found, not only in the œsophagus but also in the pharynx. Although neither of the specimens already alluded to in the Royal College of Surgeons' Museum shows any such changes, necrotic lesions in the œsophagus have been met with in other cases and are due to secondary infection, especially by cocci (Danielsen). It is readily conceivable that had my case recovered, cicatrization of the lesions would have led to stricture. Post-diphtheritic stricture of the œsophagus, though an extremely rare occurrence, has been recorded in the pre-bacteriological era by Gendron, Lenbe and Penzoldt, and Trendelenburg, and more recently by Korczynski, Jungnickel, and Danielsen. In all the cases recovery followed gradual dilatation of the stricture by bougies. In some of the cases, especially those reported by the earlier writers, the obstruction to the passage of food may have been due to diphtheritic paralysis, but in others an undoubted cicatricial stenosis, sometimes multiple, existed, for which no other cause than diphtheria could be discovered.

The localisation of diphtheria in the œsophagus in the present case is difficult to explain, especially as there was no history of tube feeding or of the passage of bougies. In children already suffering from œsophageal stricture as the result of swallowing lye, an attack of diphtheria is apt to be very severe. Jacobi and Baginsky have each recorded fatal cases. The œsophageal cicatrices in both these cases were invaded by diphtheritic membrane, the frequent use of bougies having predisposed the stricture to infection.

In my own case the œsophagus was probably affected by the diphtheritic process at an early stage of the disease, as the membrane had entirely separated at the necropsy.

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- (20) MORELL MACKENZIE.—‘Manual of Dis. Nose and Throat,’ 1884, ii, p. 69.
- (21) OPIKOFER, E.—‘Arch. f. Laryngol.,’ 1911, xxv, p. 145.
- (22) SANDERSON, B.—‘Second Rep. Med. Off. Privy Council,’ 1860, p. 267.
- (23) SANNÉ.—‘Traité de la Diphthérie,’ 1877, p. 64.
- (24) TRENDelenBURG.—Quoted by Fry, *loc. cit.*



## A CASE OF ACUTE PURULENT ARTHRITIS IN A CHILD OF TEN MONTHS, WITH RADIOGRAPH.

By J. BURFIELD, F.R.C.S.Eng.,  
*Hon. Assistant Surgeon, Norfolk and Norwich Hospital; and*

A. J. CLEVELAND, M.D., M.R.C.P.,  
*Hon. Assistant Physician, Norfolk and Norwich Hospital.*

A BOY, aged 10 months, was seen by one of us (J. B.) on August the 14th, 1911, for pain in the left thigh. For some three weeks he had had whooping-cough, but was not unusually ill with it. Within the last day or so the mother had noticed that he did not move the left thigh easily, and that when handled it gave him pain. The child's temperature was raised about two degrees, but the general condition was not bad. On August the 17th we saw the case together. The thigh was more tender than when the child was first seen, and the temperature had remained raised.

For the greater part of his life he had been fed on sterilised food, but there was no history of hæmorrhage from the gums, etc. In appearance the child was pale, with some evidences of rickets. There was some bronchitis.

An indefinite swelling could be felt in the region of the left hip-joint, but no crepitus, and nothing suggesting a separation of the epiphysis.

The appearance and history of the child suggested a periosteal hæmorrhage due to scurvy rickets, and we decided to put the limb at rest as far as possible, and alter the diet. The child, however, got rapidly worse, so on August the 19th he was given an anæsthetic and X-rayed. The radiograph shows two important features very clearly. (1) There was no destruction of the bones. (2) The head of the femur was at an abnormal distance from the acetabulum. This proved that the case was one of acute arthritis of the hip, and not an acute epiphysitis or osteomyelitis, nor a periosteal or epiphysial hæmorrhage. As the trouble seemed to be entirely localised to the hip Mr. Burfield decided to operate, and on August the 21st cut down on the joint. A quantity of thin pus escaped from the distended joint, but he could find no trace of bone disease. The child did remarkably well up to a certain point. The temperature became normal, and it seemed to have quite recovered, when about a month later the skin wound seemed to get re-infected. An extensive cellulitis followed, from which the child died.



The recurrence of the inflammation had not affected the hip-joint.

The case illustrates well the value of the X rays in the diagnosis of obscure joint diseases. Neither of us felt at all certain after an ordinary clinical examination as to what really was the matter, even when the child was under an anæsthetic.

No pus was collected for bacteriological investigation, but the operation was not performed under ideal conditions.

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## RETROSPECT OF OTOTOLOGY, 1911.

By MACLEOD YEARSLEY, F.R.C.S.,

*Senior Surgeon to the Royal Ear Hospital; Consulting Aural Surgeon to the Royal School for the Deaf and Dumb, Margate; Medical Inspector of London County Council Deaf Schools, etc.*

THE most important *anatomical* paper this year has been that by Mouret (translation in *J. of L.*, xxvi, p. 458) on intra-cranial dehiscences of the cavities of the ear and aqueduct of Fallopius, which should be read by all who have to do with suppurative otitis in infancy and childhood. Two papers in *pathology* which have appeared also contain items of pædiatric interest, Görke's pathology of inflammatory diseases of the labyrinth (*J. of L.*, xxvi, p. 398), and Dench's consideration of the pathological conditions of the ear resulting in profound impairment of hearing (*A.O.R.L.*, xx, p. 54).

No papers of any note upon *external ear* conditions have been published, the most important work of the year having been in the direction of otology in relation to *school medical inspection* and the *prophylaxis of deafness*. With regard to the latter much has been written upon the nasal and naso-pharyngeal conditions of childhood, and their enormous importance in the prevention of ear disease in adult life has been insisted upon—a great advance in otological therapeutics. Holmes and Emerson (*A.O.R.L.*, xx, pp. 29 and 41), have described the valuable work possible with the former's electric naso-pharyngoscope, whilst Yankauer (*A.O.R.L.*, xx, p. 418) has gone further and perfected a speculum whereby the Eustachian tube can be directly examined and treated. America has hitherto been foremost in this work, and Gützer (*N.Y.M.R.*, ii, p. 824) has published a paper on the prophylaxis of the oro- and naso-pharynx. Similar work has been done in France by Gaudier and Lien (*E.M.N.*, xv, p. 185) and Jacques (*J.M.P.*, xxxi, p. 754) by papers on the

prophylaxis on deafness in school-children, and in England by Eustace Smith (*L.*, ii, p. 1186) on post-nasal catarrh in children and some of its consequences, and Macleod Yearsley (*Hosp.*, p. 579) on Rosenmüller's fossa and the middle ear. The grave importance of conditions in this region in the child in laying the foundations of deafness in later life was also given prominence at the Birmingham meeting of the British Medical Association by Macleod Yearsley and Hugo Frey (of Vienna) in their opening addresses to the discussion on the treatment of adhesive processes in the middle ear (*B.M.J.*, ii, p. 917).

As usual, *middle-ear suppuration and its complications* has received a large share of attention. Bowen (*L.*, ii, p. 758) points out the rôle of the "comforter" in causing otitis media. Haskin (*A.O.R.L.*, xx, p. 49) speaks of lactic acid bacilli in the treatment of otitis media suppurativa, and Page (*N.Y.M.J.*, i, p. 271) discusses the treatment of otitis media purulenta and mastoiditis in infants. Adair-Digblton (*N.Y.M.J.*, ii, p. 521) insists upon the influence of position in relation to the occurrence of mastoiditis, and Kolmer and Weston relate their experience of the treatment of one hundred cases of scarlatinal suppurative otitis media by means of vaccines. The occurrence of mastoiditis without apparent implication of the middle ear is the subject of a paper by Perkins (*A.O.R.L.*, xx, p. 423). Two papers have appeared (*P.*, ii, pp. 239 and 867) by Pike and Burgess dealing with what the former calls permeating mastoid meningitis, in which infection is conveyed through the bony canals along the sheaths of nerves and vessels, and in which pain appears to be conspicuous by its absence. Harper (*L.*, ii, p. 430) points out the dangers of diffuse latent labyrinthitis in the radical mastoid operation, and Norman Patterson (*B.M.J.*, i, p. 988) describes a case of extensive venous infection complicating middle-ear disease and causing thoracic empyema. Allport (*A.O.R.L.*, xx, p. 400), in "Some Rambling Thoughts Concerning the Radical Mastoid Operation," condemns Heath's method as leaving "practically untouched the diseased middle ear and the diseased attic." Welty (*J. of L.*, xxvi, p. 282) describes an improved technique of the Thiersch graft following radical mastoid operations.

The aural complications of the exanthemata are discussed by Saunders (*N.Y.M.J.*, ii, p. 834), and the acute otitis of measles, diphtheria and scarlet fever by Weil (*N.O.M.S.J.*, lxiv, p. 210). An interesting case of primary sarcoma of the middle ear and mastoid in a boy aged 11 years, in which operation was followed by recovery, is related by Tobey (*B.M.S.J.*, clxv, p. 726).



In connection with the education of the deaf, an interesting correspondence by McCall, Macleod Yearsley, Rutherford and others took place in the *B.M.J.* (i, p. 1105, and ii, pp. 160, 225, and 248), whilst two papers on the medical inspection of deaf children (shortly to be published) by Kerr Love, and the classification of the deaf child (*B.J.C.D.*, viii, p. 481) by Macleod Yearsley, were read at the Conference of Teachers of the Deaf at Manchester. Three articles on the "Education of the Deaf" (*L.*, i, pp. 495, 574, and 652) by Macleod Yearsley and the important work of Kerr Love on "The Deaf Child" showed the dawn of a wider interest in the subject.

## ABBREVIATIONS.

- A.O.R.L.*.—‘Annals of Otology, Rhinology and Laryngology.’  
*B.J.C.D.*.—BRITISH JOURNAL OF CHILDREN’S DISEASES.  
*B.M.J.*.—‘British Medical Journal.’  
*B.M.S.J.*.—‘Boston Medical and Surgical Journal.’  
*E.M.N.*.—‘L’Echo Médical du Nord.’  
*Hosp.*.—‘The Hospital.’  
*J. of L.*.—‘Journal of Laryngology, Rhinology, and Otology.’  
*J.M.P.*.—‘Journal de Médecine de Paris.’  
*L.*.—‘Lancet.’  
*N.O.M.S.J.*.—‘New Orleans Medical and Surgical Journal.’  
*N.Y.M.J.*.—‘New York Medical Journal.’  
*N.Y.M.R.*.—‘New York Medical Record.’  
*P.*.—‘The Practitioner.’

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## The Royal Society of Medicine.

### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

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*Friday, November the 24th, 1911.*

Dr. G. A. SUTHERLAND, *President, in the Chair.*

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**Infantilism.**—Dr. VINCENT DICKINSON.—Boy, aged 7 years, the youngest but one of eight children, born of apparently healthy parents; four of the children dead, the others healthy; no miscarriages. Weight 2 st. 4 lb., height 2 ft. 9 in. Forehead rather prominent, eyes large; mouth not large, tongue small and pointed; hands large, with square-topped fingers, thumb and little finger long, no curvation. Considerable deformity of bone structures, notably the clavicles, wrists, elbows, knees and ankles; marked lordosis and genu valgum; chest rachitic; abdomen large, spleen and liver not felt; no excessive sweating. Slight movements of the facial muscles and of the fingers suggesting a mild degree of athetosis. The child is not deaf, and seems to understand what is said, but he does not speak; he will

repeat a few words when told, but in a whisper only. Von Pirquet negative.

**Chronic Interstitial Nephritis with Infantilism.**—Dr. REGINALD MILLER.—Boy, aged  $9\frac{1}{2}$  years; height, 3 ft.  $1\frac{1}{2}$  in.; weight 34 lb. Full term child. Normal until the age of five months, when he had a severe attack of diarrhoea and vomiting. After this it was noticed that he took a lot of fluid and passed much urine, and that his growth became retarded. Very small for his age at three years old. Measles at four years. Six other children in the family, all healthy; no miscarriages. He has been under observation as an out-patient for two years. During this time he has grown  $1\frac{1}{2}$  in. Perpetually suffers from thirst; will drink  $1\frac{1}{2}$  pints of water in the night. Marked polyuria. Marked phimosis. Child is thin; skin is pale, dry and lined. He sweats only in the hottest weather. There are slight evidences of old rickets; knock-kneed. Abdomen prominent; liver, spleen, and kidneys not enlarged. The heart shows some slight hypertrophy of the left ventricle; the radial arteries are not thickened; the pulse tension does not appear abnormally high. Urine very copious; specific gravity 1002-4; thick trace of albumin, lessened, but not disappearing, after twelve hours' rest in bed. A granular cast found once.

Mentally is intelligent, but very backward; can write his own name, and begins to do sums now. Is in the infants' class at school. Wassermann test negative.

No improvement was made under a six weeks' course of thyroid extract.

**Intra-cranial Tumour.**—Dr. REGINALD MILLER.—Girl, aged 7 years 3 months. *History:* Had pneumonia a year ago, since when she has gradually become unsteady in her gait, and suffered from occasional sudden attacks of vomiting, associated with transient headache and giddiness.

*Present state:* Child has sudden attacks of headache, usually frontal; with these are attacks of typical cerebral vomiting, sudden, explosive, and sometimes brought on by change of position. Mentally the patient is happy, quick, and intelligent. Her gait is ataxic; she falls rather more to the right and backwards than in other directions. There is no ataxia of the hands; no Rombergism. Cranial nerves: Nystagmus in all directions, most marked and coarsest to right. Slight paresis of right external rectus. Vision poor; hypermetropia; no optic neuritis. Child shows "cerebellar tilt" of head, the right ear being lowered towards right shoulder and chin turned upwards and to left. Hearing good. Sensation: Sensation of movements of self are in the opposite direction from sensations of movements of external objects. Loss of sense of position in lower limbs; no areas of anaesthesia. Reflexes: Pupil, light reaction sluggish; abdominal reflexes absent (right disappearing first), arm-jerks increased, finger-flexion bilateral, ankle-clonus bilateral (right appeared first); Babinski's sign at first occasional on right, now occasional on both sides; knee-jerks increased (right increased first). Wassermann negative; von Pirquet negative.

The localisation of the tumour appears to rest between (1) a diffuse pontine glioma, with early cerebellar symptoms; (2) a right extra-cerebellar tumour; (3) a right lateral lobe cerebellar tumour.

**Psoriasis and Flexion of the Terminal Phalanx of the Thumb.**—Dr. F. J. POYNTON.—Girl, aged 2 years, had suffered from rickets. Three months ago a discrete eruption began to appear, which has proved to

be psoriasis. About the same time the right thumb began to contract. There has been no pain and no other joint affected. The terminal phalanx of the right thumb is obviously flexed on the proximal and cannot be fully extended. X rays show that there is no alteration in the structure or outlines of the bones to suggest a reason for the alteration in the function of the joint. The flexor tendons of the thumb are apparently shortened, and have undergone some fibrosis.

**Congenital Absence of Patellæ and Deformity of the Nails in a Mother and Three Children.**—Dr. A. C. D. FIRTH.—There is no history of any similar deformity on the paternal side.

The members of the family have been as follows:

Mother, aged 32 years: patella present on right side and rudimentary on the left, nails deformed. Girl, aged 10 years: patellæ absent, nails deformed. Is unable to fully extend the arms at the elbow and has undergone an operation for talipes. Twins (premature): died soon after birth. Sex not stated. Said to have been normal. Boy: died, aged 2 years; normal. Girl: died, aged 2 months. Patellæ absent; cleft palate. Girl, aged 4½ years: patellæ absent, nails deformed. Girl, aged 3 years: patellæ absent, nails deformed; unable to fully extend left arm at the elbow.

The deformity in no way interferes with the activity of the patients.

**Hereditary Syphilitic Infant treated by Intra-venous Injection of "606."**—Dr. J. L. BUNCH.—Male child, aged 8 weeks, was admitted to the hospital with an eruption which had been present for the last four or five weeks. The child presented a thin, old appearance, the skin was of a brownish-yellow tint and was covered with a maculo-papular eruption, especially well marked in the genito-crural region and on the buttocks. The papules were flattish and were present also on the hands and soles, and the eruption had a brownish tint. There were fissures at the angles of the mouth, some moist papules near the anus, and the child had snuffles.

The Wassermann reaction was positive and the *Spirochæta pallida* was found in the skin-lesions.

On June the 21st, 1911, 0.03 grm. arsenobenzol was injected into the median basilic vein. On June the 24th the coppery eruption had greatly diminished in intensity and the ulcerated patches were much cleaner. These symptoms diminished gradually until June the 30th, when 0.04 grm. of the same drug was injected intra-muscularly into the glutei muscles.

By July the 7th all syphilitic lesions had disappeared, and the child has remained free from syphilitic symptoms until the present.

**Congenital Word-Deafness and other Defects.**—Dr. E. BELLINGHAM SMITH.—Boy, aged 10 years, a mentally deficient child of Jewish parentage, was brought to hospital for an inability to speak and general backwardness. His appearance at first sight suggests a marked degree of mental deficiency, which is, however, more apparent than real. A right congenital torticollis causes a considerable displacement of the head to the right and a diminution in size of the face on the affected side. His walk is sidelong, with left shoulder tilted up, and his gait is staggering and ataxic; all movements which he performs are associated with a coarse tremor. There is no spasticity and the reflexes are sluggish. Sensation is normal. He exhibits a marked degree of interest in everything that goes on around him, describing them by means of gestures in a rapid and tremulous fashion. If not understood he



becomes very excited and utters a number of low guttural sounds. Speech is limited to a very indistinct enunciation of "Mumina," "Papa," and "Bert," his brother's name; these he produces by carefully watching his mother's expression as she frames the words. On a casual examination he appears deaf, but is not really so, as he can hear loud sounds, such as a bell or jingling keys, and if given a watch places it immediately to his ear and seems to appreciate its ticking. Spoken words have, however, no meaning to him whatever, and he only interprets what is meant by his accompanying gestures. Sight is said to be good for distant objects but bad for near ones. If shown figures or letters on a piece of paper he holds it close to his left eye to see them. He can copy letters, although he is considerably hampered by his associated tremor, which accompanies every movement. When writing he uses the left hand and commences with the last letter of the word and writes backwards from right to left. He can count up to twenty on his fingers and recognises the numerals when he sees them on paper.

He recognises objects in pictures and describes them by gestures, which are rapid and imperfect, like all his movements, and are frequently only intelligible to his parents. He is cleanly in his habits, not spiteful or destructive, and assists in simple domestic work at home. He is nervous and sensitive, and possesses an excellent memory.

**Granuloma Annulare.**—MR. HALDIN DAVIS.—Girl, aged 6 years. She suffered from a slight lateral curvature of the spine and nocturnal enuresis, but was otherwise healthy. The mother said that she was the third of six children, the remainder of whom were quite sound. The only illnesses which the patient had suffered from were chickenpox and measles; there was no history of rheumatism, tubercle, or syphilis.

Eruption, situated on the dorsum of the right hand, consists of two distinct lesions. One, the larger, extends from the metacarpo-phalangeal joints of the second, third and fourth fingers about 1 in. in a proximal direction. It is roughly circular in shape, sharply margined, and the periphery is made up of a sort of necklace of nodules closely set together round a central area, in which are only a few isolated nodules. The skin is unbroken and unaltered in colour, but the nodules can be made out, and when touched are found to be of much tougher consistency than the normal skin. Separated by a short interval and nearer the wrist is a second lesion, smaller, and made up of the same constituents, but the outline is like that formed by two intersecting circles. The centre of this patch is free. The patient was stated to have had a similar lesion last year, which disappeared.

**Cerebral Aplasia with Hydrocephalus.**—DR. R. SALUSBURY TREVOR and Dr. H. D. ROLLESTON showed this specimen from a male child, who died on the twenty-eighth day of life after seventeen days' illness, with symptoms suggestive of meningeal hæmorrhage or tetanus neonatorum.

The cerebral hemispheres were represented by a thin sheet of brain-tissue, fused in the middle line by union of the pia-arachnoid. The falx cerebri was absent. Over the posterior part of the left half of the sac was a sub-arachnoid collection of fluid forming a cyst, which was directly continuous with the membranous sac forming the cerebellum.

The cerebellum was represented by a cystic cavity with thin membranous walls with traces of brain-matter. The cyst projected on either side of the brain-stem in the shape of the cerebellar hemispheres, but all trace of the peduncles and the valve of Vieussens was absent. The cyst was unilocular,



and continuous with the cyst on the outside of the left half of the brain, so that the latter cyst appeared to have arisen by an escape over the free margin of the tentorium of a part of the cerebellar cyst.

The cerebrum consisted of one large cyst. There were practically no convolutions on the surface. On the floor of the cyst was a central trough running antero-posteriorly, representing the third ventricle. Above and on either side of this were two string-like bands, representing, probably, the remnants of the anterior pillars of the fornix. Across the trough ran a thread-like band representing the middle commissure. The aqueduct of Sylvius was closed. On either side of the third ventricle there was a slight projection posteriorly representing the optic thalami, and on these small cystic swellings at the site of the choroid plexuses, and beyond these the crumpled plexuses themselves. The great transverse fissure was non-existent and there was no trace of the velum interpositum, nor of the corpus callosum. The iter was non-existent. The corpora quadrigemina and geniculate bodies were represented, but the pineal gland was unrecognisable. The fourth ventricle formed the floor in the mid-line of the cerebellar cyst, and except for the upper cyst wall was roofless.

On separating the tentorium a fair quantity of blood-stained fluid was present on either side outside the cerebellar cyst. The colour of the fluid was brownish and the hæmorrhage appeared to have been of old date.

**Purpura in Acute Infective Diarrhœa of Infants.**—Dr. H. D. ROLLESTON and Dr. J. B. MOLONY (*vide* p. 1).

**Congenital Flexion of the Proximal Interphalangeal Joints of the Fingers.**—Mr. D. C. L. FITZWILLIAMS read a paper on this subject, after having shown four cases illustrating the condition. As a short and convenient name for the deformity he suggested the term "hook finger." He stated that the chief characteristics were that the first inter-phalangeal joint was flexed to a right angle, while the metacarpo-phalangeal and the terminal inter-phalangeal joints were always hyper-extended, and never flexed as was sometimes stated in books. The little finger was the one most often affected, but if the condition was present in the others as well it was less marked in those that were furthest from the little finger. The thumb was never involved. The deformity was a true congenital one and not acquired; it was most probably due to maldevelopment of the anterior ligament of the joint. The hyper-extension of the metacarpal joint showed that the palmar fascia had nothing to do with it, though shortness of this structure was the cause usually assigned in books.

In nearly all cases the condition was bilateral, and was frequently associated with laxity of the ligaments of the other joints in the body. In one case exhibited both knees could be dislocated with great ease; other congenital abnormalities were not uncommon.

If the condition was allowed to persist and more than one finger was affected, the use of the hand might be seriously interfered with. The treatment in early cases was manipulation and massage, but in old standing cases the ligament should be released from the front of the base of the middle phalanx by a fine-bladed tenotome passed into the joint from the side; in this way the tendons were not injured.

## Philadelphia Pediatric Society.

JOINT MEETING WITH THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA, November the 14th, 1911, J. TORRANCE RUGH, M.D., President.

**Pyloric Stenosis in Infancy.**—Dr. CHARLES L. SCUDDER, of Boston, by invitation, read a paper on the surgical treatment of pyloric stenosis in infancy. He presented the facts about stenosis of the pylorus in infancy, the reasons why surgery offers the best treatment, and showed lantern-slides demonstrating certain facts concerning this most important condition. He described the pathology. The prognosis was fatal without treatment. The diagnosis was sometimes difficult because of mistaking pure spasm of the pylorus for a common tumour case. The treatment of the pyloric spasm alone was medical. The treatment of a pyloric tumour alone was in infancy, by operation. Posterior gastro-enterostomy was the chosen operation, as it did not interfere with metabolism. There was evidence that a pyloric tumour persisted. If this was true, the basis of the operative treatment had a good foundation. Operation should be done as soon as the diagnosis of a tumour obstruction was made.

Dr. JOHN B. DEEVER spoke in strong terms of the necessity for operation in the treatment of pyloric stenosis in infancy. He said that great numbers of these infants died on medical treatment, since the correct diagnosis was not made, the children being treated as cases of "marasmus."

Dr. EDWARD B. HODGE said that Dr. Scudder's previous paper (in 'Surgery, Gynaecology and Obstetrics' for September, 1910) and this address both showed clearly the truth of two points: that this condition could be successfully treated surgically, and that these patients grew up into healthy children. But these cases all had organic tumour. Dr. Hodge thought there was danger of operating upon patients who had no tumour, cases which could be treated successfully medically. The surgeon should be called in early, that both physician and surgeon might study the case together. The operation was relatively safe, the mortality now being under 10 per cent.

Dr. HARRY LOWENBURG referred to a patient of his, reported recently, upon whom operation had been successful at the age of six weeks. He had observed five cases of pyloric stenosis. He considered absolute constipation the most important indication for operation—more important than palpable tumour or peristaltic waves. The motions in cases which required operation consisted of bile-stained mucus only.

Dr. ROLAND MILL, of St. Louis, had seen many such cases treated medically; but recently he had had a baby of five weeks operated upon successfully.

Dr. SCUDDER, in closing, described his technique. Infants must be kept thoroughly warm during operation. A skilled anaesthetist was necessary. If the baby got blue, a little oxygen would overcome the difficulty. The only disinfection used was 70 per cent. alcohol for bathing the abdomen before operation. The incision should be low and to the left of the umbilicus, and must be long. He took out of the abdomen only the part to be operated on. He selected the jejunum, close to the ligament of Treitz,

for the anastomosis. The incision in the stomach and intestines should be about an inch long. He used linen and zero chromic gut for sutures. The abdominal wound was closed with interrupted sutures, layer by layer. After operation whey was given first, two drachms every hour, by medicine dropper increased gradually if there was no vomiting. It seemed unfair to the surgeon for the physician to have starved the infant before handing it over to the surgeon for operation.

### **Some Differences between the Surgery of Children and Adults.—**

Dr. CHARLES N. DOWD, of New York, by invitation, read this paper. Dr. Dowd spoke of three topics in which the surgery of children differed from that of adults, one in the neck, "Inflammation of Tubercular Lymph-Nodes," one in the chest, "Suppurative Pleurisy or Empyema," and one in the abdomen, "Tubercular Peritonitis." He spoke of 465 operated neck cases. Fifteen were in young children who showed more tuberculosis in other parts of the body than the clear children; eradication of the disease was more difficult. None died after operation, but two died later, one of general tuberculosis, the other of tubercular meningitis. Twelve had been traced and were still in good condition. Between the ages of two and seventeen years the clinical picture was fairly definite. Lymph-nodes in the upper part of the neck broke down before the lower ones were involved. In this group were 374 patients. The nodes were thoroughly removed, with an operative mortality of  $\frac{1}{4}$  per cent. Patients were usually out of bed in three days, and out of the hospital within ten days. About 75 per cent. were free from recurrence, and about 90 per cent. ultimately cured. The scar resulting was insignificant. In adults the inflammation was apt to extend to the lower lymph-nodes of the neck before a cold abscess formed above. The tubercular inflammation was more extensive and the operation more difficult, but still gave excellent results.

Dr. Dowd had observed 204 cases of empyema in children to forty cases in adults. In children the empyema was usually but a part of a general pneumococcic infection; 51 per cent. healed promptly after opening the chest and resecting a small piece of rib, 19 per cent. healed more slowly, while 30 per cent. died with evidence of pneumonia, peritonitis, pericarditis or other general infection; 79 per cent. of the bacteriological examinations indicated pneumococci as the infecting agent. The patients in whom lung contraction persisted usually did well with thoracoplasty and decortication. In adults only 32 per cent. showed pneumococcic infection. Here the results of thoracoplasty and decortication were less favourable.

Dr. Dowd had observed forty-six children and thirty adults with tubercular peritonitis. Fluid was present in the children in marked degree only seven times, and in only four instances could the appendix be removed. Several of these patients showed marked improvement after the operation. Of the adults 40 per cent. had excessive amounts of fluid; 50 per cent. had the lesion so localised that either a portion of the intestine or the uterine appendages were removed.

Dr. HENRY R. WHARTON was surprised that Dr. Dowd had not seen more cases of tubercular lymph-nodes in the neck of children under one year of age. He agreed with Dr. Dowd that their occurrence was more frequent after that age. Dr. Wharton believed that if operation for empyema was done early, recovery resulted. In infants he usually employed intercostal drainage; in children he removed a portion of a rib. In tubercular peritonitis he operated when abdominal effusion was present, without



breaking adhesions, since free manipulation was apt to be followed by the development of faecal fistula.

Dr. JOHN N. JEPSON advised calling all cases of cervical adenitis tubercular, since that statement decided parents to permit operation, which nowadays consisted of total extirpation of the glands. If the disease was eradicated a permanent cure was reasonably sure. He could not recall a case of empyema in a child which did not follow pneumonia. Dr. Jepson referred to a child now under his care with tubercular peritonitis, complicated by hepatic cirrhosis, who had done well since the operation.

Dr. DOWD, in closing, spoke of the after-treatment of these cases. The empyema patients were not benefited by any suction apparatus more than when simple drainage into the dressing was secured. In the neck drainage was also important. Good hygienic surroundings were of value for all of these patients. The good results in the neck cases lead one to believe that the inflammation must have been localised to a comparatively small area of the neck.

**Stereo-arthrolysis.**—Dr. R. TUNSTALL TAYLOR, of Baltimore, by invitation, read a preliminary report and experimental study in arthroplasty. After reviewing the literature upon the treatment of ankylosis, he discussed the embryology of the articulations and the effect of muscular activity upon joints. He then enumerated the essentials in forming a new joint and described the various waxes, mixtures of which he used in his experiments. After describing investigations in the formation of new joints in ten rabbits, Dr. Taylor gave in detail the histories of four patients for whom he made new joints with mobility in place of ankylosed joints. This work was done in the past six months, in the James Lawrence Kernan Hospital for Crippled Children in Baltimore.

Dr. M. A. WILSON commented upon the fact that the muscular atrophy from disuse in long-standing cases of ankylosis was the most serious factor. So far he had used chromicised pig's bladder, as recommended by W. S. Baer, but he was now going to try wax. Permanent success depended on the selection of patients with fibrous ankylosis; the avoidance of operation in joints that were seriously deformed or of long standing; the removal of enough joint to secure great freedom of motion; early institution of passive motion; early establishment of voluntary muscular control; the avoidance of fixation appliances that interfered with normal function.

Dr. G. G. DAVIS said that this subject was as interesting to the orthopædic surgeon as cancer was to the general surgeon. Attempts to produce movable joints by introducing foreign bodies had been failures, as had also the removal of a large amount of tissue from the joint. Yet ankylosis of the elbow treated by resection had given some pretty good joints after all. In the knee, of all ankylosed joints, it was most difficult to get a good result. If the wax did not irritate, the problem was almost solved.

Dr. TAYLOR, in closing, said that this method seemed more helpful in cases of osseous ankylosis than in the fibrous types of rheumatoid and gonorrhœal origin. It was best not to move the joints for three weeks after operation, although traction should be used by the end of the first week. The silver skin suture should be left in three or four weeks, as the capsule had been dissected away.

**Société de Pédiatrie, Paris.**

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October the 20th, 1911. (Bulletin No. 7.)

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**Bruit in a Pulmonary Cavity.**—MM. VARIOT and P. PETIT described the case of a boy, aged 7 years, who had on the left side of the thorax a cavity in which a splashing sound synchronous with the pulse was heard. There was no fever nor constitutional disturbance and Koch's bacillus was not found. The cavity was probably due to a purulent pleurisy with extensive sclerosis of the parenchyma. Radiography showed an almost complete opacity of the left lung.

**Arterial Transposition; Congenital Cyanosis without Murmur.**—MM. VARIOT and MORANCÉ showed the heart of a boy, aged 3 years, in which the aorta arose from the right ventricle and the pulmonary artery from the left, the large veins being normally placed. There was cyanosis increased by the efforts of defæcation, but no bruit. The arterial blood seemed to pass into the general circulation by the interventricular perforation, the foramen ovale and the ductus arteriosus; the venous blood by the bronchial arteries, which were remarkably large.

(?) **Amyatonia Congenita.**—MM. GUINON and GAUDUCHEAU described the case of a boy a few months old, the subject of partial muscular atony without paralysis, with occasional hypertonus of certain muscular groups, exaggerated extension of the head, and subluxation of the inferior maxilla. On examining the child in bed he appeared at first sight to be in a condition of extreme opisthotonos. The head was hyper-extended, the occiput lying on the interscapular region of the spine. The limbs were flexed except at the extremity. The child remained motionless for hours together, sometimes crying without being able to reduce the luxation of the inferior maxilla. The immobility was not, however, continuous. As soon as one tried to move the child a certain rigidity first of all became apparent; the various segments of the body were as though fixed in these positions, but the rigidity soon gave place to an abnormal flaccidity allowing very free passive movements. The child moved its limbs spontaneously to a fair extent in spite of evident muscular weakness. These movements seemed feebler and more limited at the root of the limbs than at their extremity, and this was specially noticeable with regard to the arms. The movements were in a marked degree *synkinetic*: if on pinching a finger a flexion of the arm was provoked, this movement was also taken up by the other limb. The absence of Trousseau's and Chvostek's signs and of galvanic hyper-excitability of the nerves was against the hypothesis of an abnormal form of tetany. The excessive flexion of the head was exaggerated when the child was raised by a hand applied to the lumbar region. But if the child was turned over on its stomach the head did not immediately take up a position of anterior flexion, and the extensor muscles could be seen in parallel columns below the nuchal region. Respiratory movements were feeble; respiration seemed more diaphragmatic than costal, and the vesicular murmur was feeble. The enormous opening of the mouth was very striking, and could only be explained by a subluxation of the lower jaw with extreme mobility. Suction was impossible, and milk had to be poured down the

child's throat. The eyeballs were not completely covered during sleep, and there was a certain degree of bilateral ptosis. Nystagmus was present.

M. MARFAN described two somewhat similar cases which he classed under the name of *Little's disease of tetaniform type*.

Woodcuts of this interesting case are given in the 'Bulletin.'

**Prolonged Cerebro-spinal Meningitis with Cachexia.**—M. ROBERT DEBRÉ showed a boy, aged 8 years, who had presented all the symptoms of acute cerebro-spinal meningitis with clear cerebro-spinal fluid. Instead of recovering under serum treatment he developed dulness of intellect, disturbances of the sphincters, diffuse amyotrophy, paresis with rigidity, and a condition of profound cachexia. He became subject to acute attacks in which all the symptoms were exaggerated; the retraction of the neck resembled that of acute tetanus; the headache was so intense that he shrieked day and night, and there was also intractable vomiting. Between the attacks there was cerebral torpor. Lumbar puncture and intra-spinal injection of serum gave no relief. After five months optic atrophy was noted. A month later M. Broca removed a large piece of the right parietal bone. The immediate results of the operation were good: the cerebral torpor disappeared two days after the operation, there was no more headache, and the vomiting ceased. The rigidity gradually diminished, and at the present time the child had no symptoms but blindness.

**Subacute Intussusception in a Child of 5½ months.**—M.M. GUINON and FAUGUEZ reported this case, the points of interest being a long evolution divided into three distinct periods: A phase of intolerance characterised by a serious disturbance of the general condition, continuous pain and partial refusal of food, the passage of blood-stained mucus without faecal matter lasting six or seven days. A second phase of improvement during which the pain diminished and feeding became possible, the child taking 500 grm. of liquid, of which 250 to 300 grm. consisted of humanised milk. The child was cheerful and able to sleep, and the motions became distinctly faecal and almost free from mucus. A third phase in which the condition became rapidly worse, and characterised by thrush, vomiting, and refusal of food. Laparotomy was performed about five weeks after the onset, but the case ended fatally.

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**Diphtheria in the Metropolitan Asylums Board hospitals ('M.A.B. Rep.', 1910).**—3634 cases were admitted during 1910 as compared with 4393 during 1909 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, p. 409). Exclusive of purely bacteriological cases the percentage mortality was 7·9, the lowest on record. The mortality at the various hospitals ranged from 5·2 to 9·5 per cent. Among 668 laryngeal cases there were 86 deaths, a mortality of 12·9 per cent. On 231 tracheotomy, on 45 intubation, and on 11 both operations were performed, among whom there were 50, 6 and 5 deaths respectively. The percentage errors in cases admitted was



141. Among the 599 wrongly certified as diphtheria were 401 of tonsillitis, 44 of laryngitis, 42 of Vincent's angina, 21 of pneumonia, and 11 had no obvious disease. Of complications, paralysis occurred in 16·18 per cent., albuminuria in 29·3 per cent., and otitis in 5·6 per cent. Serum rashes were noted in 37·4 per cent., joint pains in 4·6 per cent., and abscesses at the injection site in 0·6 per cent. The report contains tables showing the yearly incidence rate per cent. of complications amongst cases of diphtheria during the last nine years, and a summary of antitoxin treatment including tracheotomy and intubation statistics during the same period.

J. D. ROLLESTON.

**Nasal diphtheria in children** (*Arch. de méd. des Enf.*, 1911, xiv, p. 833.)—Mme. de Biehler and B. Korybut-Daskiewicz review the literature and record nine cases of exclusively nasal diphtheria. Eight occurred in infants, aged from 4 to 11 months, and one in a child, aged 4 years. Some of the cases showed slight pyrexia, but in many the temperature was not raised. No palsies occurred. Rapid recovery followed injection of from 1000–2000 units of antitoxin.

J. D. ROLLESTON.

**Wound diphtheria** (*Boston Med. and Surg. Journ.*, 1911, II, p. 329).—F. A. Thompson, jun., and M. R. MacAusland.—A boy, aged 10 years, was admitted to hospital with compound fracture of the right patella. After surgical treatment the wound healed by first intention, but in the latter half of the third week pus appeared at the inner end of the skin incision, and the whole area became covered with a greyish white membrane. Diphtheria bacilli were found in the cultures, and in the course of a fortnight 40,500 units were injected. The actual diphtheritic process lasted three weeks, but it was not until forty-one days from the time that diphtheria bacilli were first found that the cultures became negative. The wound finally healed, after the upper and outer fourth of the patella had necrosed.

J. D. ROLLESTON.

**Diphtheria of stomach** (*Bull. et Mém. Soc. Anat. de Paris*, 1911, 6 sér., xiii, p. 326).—P. Harvier and R. Rolland.—At the necropsy of a child, aged 4 years, who had died of hæmorrhagic diphtheria without any œsophageal or gastric symptoms during life, five small radiating patches of membrane were found at the cardiac orifice ranging from 5 to 8 mm. in length and from 1 to 2 mm. in width. A pure culture of long diphtheria bacilli was obtained from one of them. The histological structure was typical of diphtheritic membrane (cf. BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vii, p. 409).

J. D. ROLLESTON.

**Gangrene of leg following diphtheria** (*Lancet*, 1911, I, p. 94).—A. S. Ransome and E. M. Corner.—A boy, aged 6 years, in the second week of diphtheria treated with antitoxin, developed signs of cardiac failure. On the 17th day he had very acute and sudden cramp in the right leg, and two days later discoloured patches appeared on the foot and leg. The urine was scanty and albuminous. Palatal palsy occurred on the 37th day. On the 48th day a line of demarcation appeared at the junction of the lower and middle third of the leg. Amputation was performed just below the knee on the 46th day after the embolism and on the 61st day of illness. The lumen of the popliteal artery was free of clot. The embolus was therefore higher up, possibly at the origin of the superficial femoral. Recovery took

place. **H. Kramer** (*'Brit. Med. Journ.,'* 1911, II, p. 505) records another case in a girl, aged 11 years, who fourteen days after the onset of severe faucial diphtheria treated with antitoxin developed gangrene of the leg. A few days after the gangrene had reached the tubercle of the tibia amputation was performed. Recovery was delayed by the occurrence of measles nine days after the operation. There was no diphtheritic paralysis.

J. D. ROLLESTON.

**Sudden death after diphtheria** (*'Austral. Med. Gaz.,'* 1911, XXX, p. 451).—**S. Sheldon** describes a case of a girl, aged 14 years, in which death suddenly occurred from the plugging of the air passage by a slough about two inches long in the trachea. The child had been convalescent from diphtheria for six weeks.

F. R. B. ATKINSON.

**Serum reaction** (*'The Canad. Pract. and Rev.,'* 1911, XXXVI, p. 267).—**W. Goldie** says that serious serum reaction does not occur in children. There was no death or any serious trouble amongst 9000 children who were given 500 units of anti-diphtheritic serum every two weeks in hospital, and later 1000 units every three weeks for two years. Reactions do occur, but they appear to depend rather upon the individual than upon the serum. Most of the reactions follow the first injection, and in that patient subsequent doses will always produce a reaction. The most severe reactions appeared amongst the nurses and house staff. The chief phenomena were, local reaction at the site of injection with swelling, induration, pain, and an urticarial rash. The rash may be general and is usually urticarial in character; it may develop within a few minutes to a fortnight after the injection; it lasts one to two days. Joint pains are uncommon in children. Occasionally a severe reaction occurs; within a few minutes after the injection the child becomes restless, pale, and exhausted, there is great local reaction, swelling and induration, the pulse and breathing are hurried and cyanosis appears; finally death seems imminent. When the pulse improves a giant urticaria appears over the body and in the mouth and throat with post-sternal distress and dyspnoea like asthma indicating the same condition of the bronchial mucous membranes. The first stage reaches its height in ten minutes, but the urticaria, unless relieved by morphine, may last one or two days.

J. PORTER PARKINSON.

**Serum eruptions and calcium chloride** (*'Thèses de Paris,'* 1910-11, No. 446).—**A. Gouvalska**.—Since 1905 Netter has given calcium chloride to his diphtheria patients at the Hôpital Trousseau in Paris with the object of preventing serum eruptions. The percentage of serum rashes in 677 cases who received prophylactic doses was 3·6 as compared with 16·4 among 724 cases not so treated (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1907, IV, p. 462, and 1911, VIII, p. 134).

J. D. ROLLESTON.

**The untoward effect of diphtheria antitoxin** (*'Med. Record,'* 1911, I, p. 15).—**R. Wallace** suggests that suprarenal insufficiency is the cause of the sudden death which may occur after the administration of serum in sensitised persons or in those subject to bronchial asthma or other forms of respiratory disorders. He recommends for such cases the hypodermic injection of adrenalin both as a prophylactic measure prior to the administration of serum and as a curative treatment for acute forms of the serum disease.

J. D. ROLLESTON.



**Carriers in relation to the spread of diphtheria** (*Med. Record*, 1911, i, p. 1043).—**E. C. Hill** says that the diphtheria bacillus has no extra-corporeal existence except in milk, hence house disinfection is useless, and since this practice was dropped in Providence, R. I., there has been no increase in the ratio of recurrences to infected families. The present epidemic consisted of sixteen cases occurring in the officers' quarters. In addition to these clinical cases thirteen carriers were found in those living in the same dwellings and nine among the surrounding tradespeople. The first case occurred in a butcher, and after a long illness ended fatally. The second case was thought to have developed the disease two days later, but no notice was taken till nearly a month, when symptoms of toxic neuritis of the pneumogastric developed, followed by a temporary paralysis of the left arm and forearm; thirty-eight thousand units of antitoxin were given and digitalis and strophanthus were used to combat the cardiac weakness. At the time of writing there was a partial recovery. Two other serious cases are recorded. The first case was the only one fatal. All inmates were quarantined, and prophylactic doses of 1000 units were given to all irrespective of age. No baneful results are recorded. Cultures were made from 287 inanimate objects, and the germs of the disease were found in five, three of these being from the gauze protecting telephone mouthpieces, one from the hair of a doll, and the last from the feet of a "teddy bear." The authors conclude by attributing this and other epidemics to human carriers and not to fomites.

CHRISTOPHER ROLLESTON.

**Treatment of diphtheria bacillus carriers** (*Arch. Internat. Med.*, 1911, vii, p. 16).—**H. Page** agrees with H. W. Fisher (*Journ. Amer. Med. Assoc.*, 1909, LIII, p. 439) that four successive negative cultures are imperative before a patient is released from quarantine. Schiotz, of Copenhagen, observing that patients with staphylococcus sore throats admitted in error to diphtheria wards did not contract diphtheria, and that intercurrent attacks of staphylococcus sore throat terminated Klebs-Loeffler bacillus findings in diphtheria convalescents, inoculated six diphtheria bacillus carriers with staphylococci with success in each case. Page now records a case in which after ineffectual use of ordinary throat sprays and repeated injections of antitoxin, two-hourly spraying of the throat with bouillon cultures of *Staphylococcus pyogenes aureus* rendered the throat free of bacilli in a few days. **S. R. Catlin, L. O. Scott and D. W. Day** (*Journ. Amer. Med. Assoc.*, 1911, LVII, p. 1452) record eight further successful cases. In none of these fifteen cases did any harmful results occur. The bacilli disappeared in from forty-eight to seventy-two hours.

J. D. ROLLESTON.

**Scarlet fever in the Metropolitan Asylums Board hospitals** (*M.A.B. Rep.*, 1910).—8782 cases were admitted in 1910 as compared with 15,384 in 1909 (*vide BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, vii, p. 409). The mortality was 2.4 per cent. The percentage error of diagnosis was 9.5. Among the 918 cases wrongly certified were 224 of German measles, 131 of tonsillitis, 226 of erythema; 115 had no obvious disease or were not diagnosed. The commonest complications were otitis (12.64 per cent.), albuminuria (8.53 per cent.), secondary adenitis (7.08 per cent.), nephritis (5.14 per cent.), and rheumatism (3.87 per cent.); 261, or 2.74, had relapses. There were 165 cases of post-scarlatinal diphtheria with one death, a mortality 0.61 per cent. Nine of the post-scarlatinal cases were laryngeal, but all recovered. The report contains instructive tables showing the

yearly incidence of complications during the last nine years, the number of cases in which two or more separate infectious diseases were co-existent at the time of admission, and the incidence of post-scarlatinal diphtheria during the same period.

J. D. ROLLESTON.

**Recurrence of scarlet fever** (*New York Med. Journ.*, 1911, II, p. 771, and *Med. Record*, 1911, II, p. 249).—**J. P. Crozer Griffith** at a meeting of the American Pediatric Society said that recurrence of the typical forms of scarlet fever was very rare, though cases were reported by many writers. His own case was in a boy, aged 2 years, the son of a physician. A week after the first attack, in which the tongue, throat and rash were typical, the child developed measles, the desquamation of which was concealed or replaced by that of scarlet fever. Thirteen months later he had a second attack of scarlet fever followed by typical desquamation and nephritis. In the subsequent discussion, **Emmett Holt** mentioned a case in which the first attack occurred at seven years, and the second at twenty-four. Both were severe and typical. **C. G. Kerley** reported two cases, one in a girl, the daughter of a physician, and the other in a boy who had desquamated freely after the first attack. The second attack was undoubtedly genuine. **A. Jacobi** in his long life had seen only two cases, but they were both definite and he had seen both attacks. There were fever, eruption and desquamation, and in one nephritis.

J. D. ROLLESTON.

**Myocarditis and sudden death in scarlet fever** (*Presse Méd.*, 1911, XIX, p. 17).—**E. Weill** and **G. Mouriquand** record a case of malignant scarlet fever in a youth, aged 19 years, in whom cardiac disturbance had been pronounced from the onset. A syncopal attack occurred on admission to hospital. The next day embryocardia and arrhythmia appeared, but later the pulse suddenly changed from being rapid and filiform to a condition of normal regularity. On the sixth day of disease sudden and fatal syncope occurred. Necropsy: Recent pericarditis at base of heart; numerous hæmorrhages along branches of coronary artery, myocardium soft and of a dead leaf colour, having histologically leucocytic infiltration of its fibres. Suprarenals and thyroid healthy. The writers, without denying the existence of cases in which sudden death may be due to changes in the suprarenals (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, VII, p. 410), insist on the importance of a careful examination of the myocardium in all cases of sudden death.

J. D. ROLLESTON.

**Peripheral neuritis following scarlet fever** (*Bull. et Mém. Soc. méd. Hôp. de Paris*, 1911, XXXII, p. 332).—**Chavigny** records a case in a soldier convalescent from severe scarlet fever. Cultures of the throat showed an absence of diphtheria bacilli and he had no albuminuria nor rheumatoid pains in the joints. On the fifteenth day of convalescence diffuse pain occurred in the right lower limb and persisted for some time, but was never very severe. On leaving hospital he had some difficulty in walking, and the muscles of his right hip and thigh were much wasted. Electrical reactions showed a diminution of contractility in all the muscles, but especially in the quadriceps, in which no response was given to faradism. Treatment was of no avail.

J. D. ROLLESTON.

**Abnormal measles** (*Arch. de Méd. des Enf.*, 1911, XIV, p. 445).—**G. Baldini** records five cases seen in a recent epidemic in Paris: (1)

Hyperpyrexia in a boy, aged 11 years, without apparent complication. During the height of the eruption the temperature reached 106.2° F. After a dose of cryogenine it fell to subnormal the next day, and the disease pursued a normal course. (2) Fatal case of hyperpyrexia (temperature 106.8° F.) without obvious complications in a male infant, aged 18 months. (3) Boy, aged 7 years. Development of measles in the course of lobar pneumonia. Laryngitis and bilateral cervical adenitis five days after the appearance of the eruption. Recovery. (4) Sister of (3), aged 5½ years. Epistaxis and generalised purpuric eruption. Recovery. (5) Fatal case of hæmorrhagic measles in a female infant, aged 25 months, characterised by marked prostration, high fever, ecchymotic eruption and intestinal hæmorrhage. There was albuminuria, but no obvious hæmaturia. Death was preceded by vomiting and green stools.

J. D. ROLLESTON.

**Period of infectivity of blood in measles** (*Journ. Amer. Med. Assoc.*, 1911, II, p. 113).—J. F. Anderson and J. Goldberger.—The results obtained from the inoculation of six monkeys with human blood drawn from cases of measles point to the period of infectivity beginning at least just before, and continuing for about twenty-four hours after, the first appearance of the exanthem. At the end of about twenty-four hours from the first appearance of the eruption the infectivity of the blood for the *rhesus* monkey already appears greatly reduced and becomes progressively less subsequently.

J. D. ROLLESTON.

**Subclavian thrombosis in measles** (*Glasgow Med. Journ.*, 1911, I, p. 191).—A. J. Couper.—A male child, aged 18 months, was admitted to hospital with an ordinary attack of measles. The temperature became normal on the twelfth day, but on the sixteenth rose to 102° F. On the following day the back of the right hand became swollen and oedematous, and in the next few days the whole of the right arm and thorax were involved. The limb became cold and mottled. Gangrene developed and death took place on the twenty-first day. Post mortem, a firm adherent clot was found in the subclavian vein. Attempts to grow cultures from the clot failed. The heart and pericardium were normal. The brain was not examined. No similar case could be found in the literature.

J. D. ROLLESTON.

**Measles complicated by subcutaneous emphysema** (*Gazz. degli Osp.*, 1911, xxxii, p. 679).—M. Gioseffi.—A boy, aged 2 years, fell ill with measles complicated by broncho-pneumonia. Six days after the appearance of the eruption subcutaneous emphysema developed, first on the neck and cheeks, and then spreading on the trunk and limbs. Death took place on the third day of the emphysema. There was no constant cough as in some of the cases recorded (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, VII, p. 411).

J. D. ROLLESTON.

**Generalised cutaneous emphysema in children** (*Riv. di Clin. Ped.*, 1910, VIII, p. 748).—M. Gioseffi records two fatal cases, one in a boy, aged 5½ years, in the eruptive period of measles complicated by broncho-pneumonia, and the other in a girl, aged 7 years, who had been intubated for laryngeal diphtheria. In both cases he attributes the emphysema to laceration of the pulmonary alveoli caused by increased endo-alveolar pressure resulting from persistent and violent coughing. Including his own cases Gioseffi has collected



fourteen examples of cutaneous emphysema following measles with seven deaths, and eight following intubation for diphtheria. J. D. ROLLESTON.

**Varicella in an adult** ('*Progrès méd.*,' 1911, 3 s. xxvii, p. 440).—**M. and Mme. Savini** record a case in a previously healthy woman, aged 38 years. The prodromal period, which is usually very short and poor in symptoms, in this case lasted ten days, and was characterised by intestinal colic, diarrhoea and syncopal attacks. These symptoms ceased as soon as the eruption appeared. Of her two children, one who had already had varicella escaped, while the other had an ordinary attack fifteen days after the appearance of the mother's eruption. The patient's sister, who had previously had varicella, presented similar prodromes (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vii, p. 412). J. D. ROLLESTON.

**Varicella in an adult** ('*Med. Klinik*,' 1911, vii, p. 883).—**P. Misch** records a case in a young woman in whom the diagnosis was confirmed by successful vaccination after recovery from the attack of varicella.

J. D. ROLLESTON.

**Exanthemata after vaccination in children** ('*Arch. de Méd. des Enf.*,' 1911, xiv, p. 264).—**Mme. de Biehler** finds that eruptions after vaccination are not frequent. Out of 1070 cases of vaccination there were only thirty-six exanthemata, *i.e.* 3·3 per cent. The eruptions most commonly met with were erythema multiforme, scarlatiniforme, morbilliforme, and urticaria. The symptoms are the same as those met with in the serum disease: between the eighth and fourteenth days a slight elevation of temperature and enlargement of the glands, which become painful, oedema, chiefly of the face, and albuminuria, articular pains, and leukopenia. The writer finds that the cause of the exanthemata after vaccination is the same as after the injection of serum, *viz.* the union of specific antibodies with the vaccine or the serum of the animal.

F. R. B. ATKINSON.

**Vaccination in pregnant women and new-born children** ('*Thèses de Paris*,' 1910-11, No. 184).—**V. Mas**.—In a large proportion of children whose mothers were successfully vaccinated during pregnancy, vaccination performed shortly after birth was unsuccessful. The number of failures was highest in those children whose mothers had been vaccinated before the eighth month of pregnancy.

J. D. ROLLESTON.

**The dangers of whooping-cough** ('*Journ. de Méd. de Bordeaux*,' 1911, xli, p. 389).—**R. Saint-Philippe**.—The lay public consider whooping-cough a trifling complaint, and frequently do not call in a doctor; often also owing to the whoop being absent it passes unperceived: in 600 cases more than 100 had no whoop. It is useful to know that if it is desired to produce a cough during the doctor's visit it can be done by gently scratching the exterior of the trachea with the finger. If there be any doubt the sputum can be examined for the specific organism described in 1906 by Bordet and Gengou, or the test of the deviation of the complement may be employed. The diagnosis is of the greatest importance, for directly or indirectly whooping-cough has a large number of victims, and the bad cases are those which have not been recognised early enough.

J. PORTER PARKINSON.

**Whooping-cough** (*La Semana Medica*, 1910, xvii, p. 1617).—**Escobar**, in a very full account of this disease, recommends menthol as a specific on the basis of some clinical observations. He makes a solution of 10 cgm. in 130 grm. of alcohol, syrup and water. Of this children under one are given a teaspoonful during 24 hours (in small doses), from 1 to 2 years three teaspoonfuls, and 2 to 5 years, three to five teaspoonfuls. With menthol thus given the paroxysms soon cease and the cough subsides.

M. D. EDER.

**A case of tetanus** (*Ind. Med. Gaz.*, 1911, xlii, p. 196).—**D. G. Asana** reports a case of tetanus in a girl, aged 12 years, following on an abscess of the great toe of the right foot. The treatment adopted, and which ended in complete recovery, was as follows: (1) Antiseptic cleaning of the foot; (2) removal of the toe under chloroform; (3) intra-spinal injection, after lumbar puncture of 2.5 c.c. sterilised solution of magnesium sulphate; (4) nursing and milk diet. The author does not attribute the cure to the spinal injection but to the removal of the toe.

F. R. B. ATKINSON.

**Case of tetanus treated with intra-spinal injections of magnesium sulphate** (*Austral. Med. Journ.*, 1911, xvi, p. 265).—**M. C. Gardner** treated a child aged 8 years successfully, suffering from tetanus, in the following manner: Three c.cm. of sterilised 25 per cent. solution of magnesium sulphate were injected intra-spinously every twenty-four hours, 5 for four injections, then 4 c.cm. for the next eleven, and 3 c.cm. again for the last two, making seventeen injections in all. Rectal salines were given four hourly from the third to the fifteenth day, brandy and glucose being added. The patient also received 160 c.cm. of anti-tetanic serum subcutaneously during the first five days; it was then discontinued and again given on the twenty-first and twenty-second days. On the fifteenth day ten minims of a 2 per cent. solution of phenol were injected three-hourly, the dose being increased to 20 minims by the fourth day. This was continued for five days. The author did not find any benefit accrue from any of the remedies employed save the magnesium sulphate.

F. R. B. ATKINSON.

**Is anti-tetanic serum a factor in the cure of tetanus?** (*New York Med. Journ.*, 1911, i, p. 830).—**J. C. Kennedy** narrates a case of tetanus in a boy, aged 8 years, after a compound fracture of the frontal bone. The tetanic symptoms began nine days after the operation, and lasted sixteen days, during which time 19,500 units of antitoxin serum and 1714 grains of chloral and bromide of sodium were administered. The patient was dismissed cured six weeks after the accident.

F. R. B. ATKINSON.

**Typhoid fever in children** (*Jahrb. f. Kinderheilk.*, 1911, lxxiii, p. 475).—**H. Vogt** records his observations on an epidemic in an orphanage near Strassburg. No deaths occurred, and no cases of hæmorrhage or perforation were observed. [The number of children affected is not stated.—J. D. R.] The course of the disease as age advanced began to resemble that of the adult. Vogt's experience does not confirm the statement frequently made that typhoid in older children runs a relatively severe course. A more liberal diet than usual was allowed, most of the children being given mince biscuit and bread from the onset, and a large number potato broth and finely divided vegetables as well. The loss of weight among the children was consequently only moderate, and no cases of severe cachexia occurred.

J. D. ROLLESTON.



**Typhoid fever in a suckling** (*Arch. de Méd. et Chir. inf.*, 1911, xv, p. 533).—**C. Achard** and **Flandin** narrate a case of typhoid fever in a girl, aged 11 months, who recovered. The case did not conform at all, as is frequently the case in children, to the clinical type of adults, and the authors rested their diagnosis on the sero-diagnosis, which was markedly positive.

F. R. B. ATKINSON.

**A case of typhoid fever in a suckling with a rare complication** (*Monatsschr. f. Kinderheilk.*, 1911, ix, p. 653).—**F. Kaspar** describes a case of a babe, aged 10 weeks, admitted into hospital with a swollen knee. Three weeks before admittance he had suffered from catarrh of the bowel. The swelling was manifestly an abscess, and the pus removed showed pure cultures of the typhoid bacillus. The bacilli were found in the urine. The author considers the germ was transmitted from unboiled water used to thin the milk the child was taking and set up a general septic typhoid disease. A month after the abscess had healed pleuropneumonia set in and carried him off. Post-mortem examination revealed numerous abscesses of the lung and pleura.

F. R. B. ATKINSON.

**Abortive typhoid fever in children** (*Thèses de Paris*, 1911-12, No. 43).—**C. Collignon** says that abortive typhoid fever is remarkably frequent in children. It is characterised by its sudden onset, short duration, and rapid disappearance of symptoms. There is always, however, the possibility of a grave relapse. The thesis contains the histories of twelve cases, seven of which are original, in children up to 14 years. The duration of the disease was from seven to twenty days. In the great majority a positive Widal's test was obtained. In two cases intestinal hæmorrhage occurred and in one a mild relapse. All recovered.

J. D. ROLLESTON.

**Typhoid fever infection involving only the gall-bladder** (*Arch. of Pediat.*, 1911, xxviii, p. 217).—**W. G. Elmer**.—A girl, aged 16 years, became feverish eighteen days after drinking some typhoid-infected milk. The gall-bladder became distended and tender, but otherwise there were no abdominal symptoms. The pyrexia ran an irregular course with marked daily remissions and lasted about twelve days. Three typical rose-spots appeared, and Widal's test was positive. Complete relief occurred when the gall-bladder began draining itself, and the temperature became normal thirty-six hours later and remained so.

J. D. ROLLESTON.

**Pericarditis in typhoid fever** (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, 1911, xxxi, p. 751).—**Triboulet** and **Harvier** record a case in a boy, aged 11½ years, who died with multiple intestinal perforations after very severe typhoid fever. The diagnosis of pericarditis was not made during life, but at the necropsy the pericardium was found distended by a clear fluid, centrifugalisation of which showed endothelial cells only. Cultures of the fluid yielded typhoid bacilli. The writers could not find the report of any other case in which typhoid bacilli had been found in a pericardial effusion.

J. D. ROLLESTON.

**Cardio-sphygmographic observations in typhoid fever** (*Jahrb. f. Kinderheilk.*, 1911, lxxiv, p. 386).—**W. Schlieps** examined one hundred children with typhoid fever in the Strassburg Clinic, and thus summarises his results: (1) The well-marked dirotism observed in adults does not

occur in children under fourteen years. (2) Bradycardia is almost invariable at the beginning of convalescence. (3) The frequently observed arrhythmias are due to sinus irregularities. Their prognosis is good, and no special treatment is required. (4) No other kinds of arrhythmias were observed.

J. D. ROLLESTON.

**Typhoid fever complicated by double parotitis** ('*New York Med. Journ.*,' 1911, I, p. 176).—R. E. Coughlin records a case in a girl, aged 13 years, who presented all the signs and symptoms of acute appendicitis. An exploratory operation showed the appendix firmly bound down by adhesions and enlargement of the mesenteric glands suggesting typhoid fever or peritoneal tuberculosis. Widal's reaction was positive. Eight days after the operation left parotitis and two days later right parotitis developed. The inflammation in the glands subsided without suppuration. The typhoid fever ran a typical course, accompanied by repeated intestinal hæmorrhages which are uncommon in children. Complete recovery took place after an illness of ninety-seven days.

J. D. ROLLESTON.

**A case of nephro-typhoid** ('*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*,' 1911, xxxi, p. 51).—C. Lesieur.—A girl, aged 13 years, had a moderate attack of typhoid fever, the onset of which was accompanied by symptoms of nephritis (headache, nephralgia, hæmaturia, enlargement and tenderness of the left kidney). Finally recovery took place.

J. D. ROLLESTON.

**Post-typhoid delirium** ('*Arch. of Ped.*,' 1911, xxviii, p. 369).—A. Baines records two cases in boys each aged 6 years, who, some days after the temperature had become normal, developed violent screaming attacks which persisted for four weeks in the one case and about a fortnight in the other. Both ultimately made a complete recovery.

J. D. ROLLESTON.

**Vaccine treatment of a typhoid bacillus carrier** ('*Med. Record*,' 1911, II, p. 46).—W. Brem and F. C. Watson.—A girl, aged 4½ years, had typhoid fever in August, 1910. She was given hexamethylenamine for two weeks during convalescence. Shortly afterwards her father and mother developed typhoid. On December 10 and afterwards numerous typhoid bacilli were found in the child's urine. The stools were negative. She was vaccinated nine times with autogenous vaccines between December 10, 1910, and February 1, 1911. The doses were gradually increased from 25 to 1500 millions. The bacilli gradually decreased, and on February 15 the cultures were negative.

J. D. ROLLESTON.

**Gangrene in typhus** ('*Jahrb. f. Kinderheilk.*,' 1911, LXXIV, p. 467).—W. Ivanoff records six cases, one of which occurred in a boy, aged 12 years, who was admitted to hospital with gangrene of the leg. Recovery followed amputation.

J. D. ROLLESTON.

**Malaria in early infancy** ('*Cleveland Med. Journ.*,' 1910, IX, p. 879).—F. Beekel records a case of quartan type in a male child aged 10 weeks, in whom improvement followed the exhibition of quinine. The source of infection was not known. The child had not been bitten by mosquitoes and no case had occurred in the immediate neighbourhood. Possibly there may

have been intra-uterine infection, as both parents had suffered from malaria, though they had been free of symptoms for some years (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, VII, p. 180).

J. D. ROLLESTON.

**Gangrene in infectious disease** (*'Hospitalstidende,'* 1911, LIV, p. 832).—K. N. Andersen records two cases: (1) A girl, aged 5 years, in the fifth week of a mild attack of scarlet fever developed extensive gangrene of the right leg and superficial gangrenous patches of the right thigh and left hip. Recovery took place after amputation through the right knee-joint. A sterile thrombus was found in the popliteal vein. The popliteal artery was normal. (2) A boy, aged 6 years, shortly after an ordinary attack of measles developed gangrenous patches on the buttocks, left thigh and left elbow. Recovery occurred in the course of a month without operation. In neither case was there any cardiac lesion to justify the diagnosis of embolism. The cause of the gangrene was therefore an autochthonous vascular lesion.

J. D. ROLLESTON.

**Obscure fever in children** (*'Thèses de Paris,'* 1910-11, No. 29).—P. M. L. Doucet discusses the origin of prolonged subfebrile states in children. Certain diseases, *e.g.* endocarditis, typhoid fever, non-tuberculous adenitis, pyelonephritis, appendicitis, pleurisy, and influenza may run a latent course in children, but their diagnosis is usually settled in a few weeks at most. In the following cases the fever is more persistent, and its origin more likely to escape notice: (1) Digestive auto-intoxication. The temperature usually ranges between 99.4° and 101.4° F. in the evening and normal in the morning, but occasionally rises to 104° F. Sometimes the inverse type is met with. (2) Rhino-pharyngeal inflammation. The patients are the subjects of adenoids, chronic pharyngitis or tonsillitis. Most have had suppurative otitis or otalgia. The pyrexia may last for months or years. Recovery is the rule. The temperature is usually subfebrile, and its course is very variable, being little affected by antipyretics. (3) Tuberculosis, especially of the lymphatic glands. (4) Post-infective states, especially those following influenza. In all these cases the nervous system plays an important part, so that those conditions are most frequently found in neuropathic or arthritic children.

J. D. ROLLESTON.

**The influence of the neuropathic and psychopathic constitution on febrile diseases** (*'Monatsschr. f. Kinderheilk.,'* 1911, x, p. 247).—R. Lederer distinguishes two large groups of children according as the members of each react to infection with diminished or increased excitability. In the one group are the children who become apathetic, are almost always asleep or in a state of stupor; in the other are those who have convulsions at the onset, are restless, continually crying and do not sleep. Neuropathic children during an infectious disease require special care and the prognosis should be guarded, as Czerny pointed out (*vide BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1907, iv, p. 312). Seven illustrative cases are recorded.

J. D. ROLLESTON.

## Dermatology and Syphilis.

**Cutaneous diphtheria** (*'Virchow's Archiv,'* 1911, ccv, p. 452).—A. Reinhardt in addition to eleven cases from literature records a fatal case of his own in a girl, aged 9 months, who had been ill for several months with rhino-pharyngitis. Some weeks before death an eczematous condition



of the skin followed by ulceration and necrosis developed. A diagnosis of syphilis was at first made. Virulent diphtheria bacilli were found in the nose, pharynx, tonsils, larynx, trachea, large bronchi, conjunctivæ, and the skin lesions. The latter were chiefly due to auto-inoculation, and possibly also to the clothing and washing.

J. D. ROLLESTON.

**Impetigo contagiosa corporis** ('*Prag. med. Woch.*,' 1911, xxxvi, p. 297).—**Kraus** showed a boy, aged 12 years, whose body was almost all covered with vesicles filled with cloudy serous fluid, some with crusts, others still moist. The child had been under observation for one week and the vesicles had been appearing and spreading over the body. It is rather unusual for impetigo contagiosa to spread to the trunk; here it has to be diagnosed from pemphigus. The disease is never seen in old people, rarely in the middle-aged, whilst it is very common in children.

M. D. EDER.

**Favourable effect from residence in a high altitude in eczema of sucklings** ('*Journ. de Méd. de Paris*,' 1911, xxxi, p. 551).—**Prof. Marfan** quotes thirteen cases of this complaint in sucklings, greatly improved by residence in an altitude of 1000–1500 metres. He considers a sojourn of a month to six weeks is sufficient. At the commencement aggravation of the malady may occur, but no change in residence should be made for a week, but if after that improvement does not set in or the child suffers from insomnia, it is necessary to return to the plains. The usual remedies, dietetic, tympanic, and medicinal, should receive attention.

F. R. B. ATKINSON.

**Gangrene of vulva** ('*Jahrb. f. Kinderheilk.*,' 1911, lxxiii, p. 231).—**Rach** showed a well-developed baby, aged 6 months, with symmetrical gangrene of the labia. The disease had begun four days previously as a vesicle. The child had had no infectious disease. In addition to Gram-positive cocci numerous spirochaetes and fusiform bacilli were present in the smear.

J. D. ROLLESTON.

**Cutaneous sarcomatosis in children** ('*Ann. de Derm. et de Syph.*,' 1911, V<sup>e</sup> sér. II, p. 340).—**W. Dubreuilh** records five personal cases and reviews the literature. The condition is usually congenital or appears in the first weeks or months of life. It is then very rarely met with before the age of five or six years. Two types may be distinguished: infantile sarcomatosis properly so called, and the sarcomatosis of late childhood which is allied to that of adolescence or adult life. The growths may be single or multiple. In the former case operation has been successful. The tumour is usually round-celled, but is sometimes spindle-celled as in angio-sarcoma.

J. D. ROLLESTON.

**Bromide rash in a suckling** ('*Zentralblatt. f. Kinderheilk.*,' 1911, xvi, p. 253).—**G. Čech** narrates the above case in a child, aged 9 months, who had been treated as necessity required with bromide of soda, and had taken from May to January 40 grm. of the drug. In December the rash made its appearance. [Apparently the same case is described, though in greater detail and with a review of the literature, by Prof. F. Scherer in '*Monatsschr. f. Kinderheilk.*,' 1911, x, p. 195.—ED.]

F. R. B. ATKINSON.

**Granulosis rubra nasi** ('*Prag. med. Woch.*,' 1911, xxxvi, p. 297).—**Kraus** showed to the Verein Deutscher Ärzte in Prague a child, aged 10

years, with an affection of the skin of the nose. The child was badly developed and was rickety. It had had pneumonia, enteritis, and pleurisy. In the last three months there was anorexia, headache, occasionally cough and great sweating of the nose. The urine was normal. The trouble with the nose was of four years' standing. The tip of the nose and the skin over the nostrils were extraordinarily red, with tiny red pimples, vesicles or commencing pustules. On pressure the pimples disappeared. There was a continual hyperidrosis from the affected part. Absence of characteristic nodules, the tuberculin reaction, tendency to infiltration and ulceration, differentiated the condition from lupus vulgaris. Lupus erythematosus, acne vulgaris, acne rosacea were also excluded. Granulosis rubra nasi was first observed by Jadassohn in 1901, who gave a history of seven cases. Its ætiology is unknown. The disease is very chronic; no remedies have been of the slightest use, but it seems to disappear in the course of time. In the discussion it was suggested that the case belonged ætiologically to the cases of dysidrosis manus described by Tilbury Fox, but Kraus maintained that his case was differentiated from other hyperidrotic processes both by its definite clinical characters and its anatomical condition,

M. D. EDER.

**Recurrent herpes of buttock** ('*Brit. Journ. Derm.*,' 1911, xxiii, p. 322).—**H. G. Adamson**.—Recurrent herpes, which usually affects the face or genitals, may attack other parts, *e. g.* the fingers, as recently recorded by the writer (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vii, p. 229). He now publishes three cases of recurrent gluteal herpes, one of which occurred in a boy, aged 7 years, who had had several attacks of herpes labialis and had twice before had a similar eruption, though not so large, on the same (right) buttock. Migraine, gout, gravel and nervous troubles are common as personal or family antecedents in this variety of herpes (Dubreuilh), but the family history in the present case was negative.

J. D. ROLLESTON.

**A report on 700 cases of tinea capitis** ('*Brit. Journ. Derm.*,' 1911, xxiii, p. 330).—**H. M. Scott**.—Of 700 cases seen at the Dermatological Clinic of the London Hospital 628 were examples of microsporon and 72 of endothrix; 405 were boys, 295 girls, the microsporon being relatively commoner in boys. The commonest ages at which the children were brought to hospital were the sixth, seventh, and eighth years. In most cases the disease had been first noticed in the routine examination of school children, in others it had been present for two years or more. X-ray treatment was employed. Nearly 3000 cases of tinea capitis have been treated at this clinic by X-rays without a single case of permanent alopecia. After-treatment consisted in washing once a week till the hairs began to fall, and then in daily washing followed by the application of ung. hydrarg. ammon. dil.

J. D. ROLLESTON.

**The frequency of alopecia areata at different ages** ('*Ann. de Derm. et de Syph.*,' 1911, V<sup>e</sup> sér. II, p. 349).—**R. Sabouraud**.—Among 200 cases, 130 of which were males and 70 females, none occurred before four or after fifty-eight years. It was most frequent between six and eleven years. After twelve years its frequency diminished.

J. D. ROLLESTON.

**Mongolian blue spots** ('*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*,' 1911, xxxi, p. 750).—**J. Comby** and **Labourdette** showed a



female child, aged 17½ months, brought to hospital for rickets. Unlike the last case recorded by Comby (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 283), which presented only one patch, three spots were present. They were of slate-blue colour, and were situated in the lower part of the lumbar region. The child had dark hair and eyes, and the skin was of a uniformly yellowish tint. The parents, who were both of dark complexion, were natives of La Creuse, and had another child whose skin was very white and had no blue patches.

J. D. ROLLESTON.

**Mongolian blue spots** ('*Thèses de Paris*, 1911-12, No. 44).—**M. Testard.**

—These are situated on the extensor surface, usually in the sacral region. As a rule they are multiple and of variable form and extent. They appear at birth or in the first few months of life, remain distinct for some years, and then gradually fade, with very rare exceptions entirely disappearing at the age of six years. Their colour is due to the presence in the dermis of large stellate or fusiform cells full of pigment, which is more abundant at the periphery than at the centre. The cells are derived from the endothelium of the capillaries and the pigment from the blood. The spots are very frequent, not only in yellow races, but also in all living near the Pacific. In white races, on the other hand, they occur with a frequency of only 1 in 300. The thesis contains a record of twenty-nine cases.

J. D. ROLLESTON.

**Ætiology of erythema nodosum** ('*Deut. Arch. f. klin. Med.*, 1911, CIV, p. 272).—**O. Brian** records ten cases of erythema nodosum. None showed clinically any signs of active tuberculosis, and in only one case did the blood infect a guinea-pig with tuberculosis (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, p. 137). Typical acute rheumatism was not found in any case. Joint affections occurred in about half the cases but were relatively insignificant. Cultures from the blood and joints were sterile and inoculation of the blood did not produce any joint affections in rabbits. Five patients had some throat affection, and five had none. Brian concludes: (1) The ætiology of erythema nodosum is complex. (2) Tuberculosis is by no means the only cause of erythema nodosum, but probably accounts for only a minority of the cases. (3) Acute rheumatism is the cause of only a portion of the cases. The supposition that every erythema nodosum is a rheumatic infection is unfounded. (4) The throat is the portal of entry in many cases, but not in all.

J. D. ROLLESTON.

**Erythema nodosum** ('*L'Echo Méd. du Nord*, 1911, xv, p. 401).—

**A. Deleârde** and **G. L. Hallez** review the literature of this subject, which has been recognised from antiquity and was named by Willan in 1798. It was well described by Schönlein in 1829. Hebra considered it a rheumatic manifestation, but later Trousseau regarded it as a morbid entity, akin to an eruptive fever. Landouzy regarded it as a tubercular manifestation, at least in some cases, and more recently others have supported this view from laboratory experiment and the results of the skin reaction to tuberculin. Erythema nodosum may come on in the course of various other diseases, but quite as frequently it appears without any cause, like an eruptive fever. It is rare in infants, but common in older children. It is more than twice as frequent in girls as in boys. Climate and season seem to have no influence. It is rare to find evidence of tubercle, but the cuti-reaction is very frequently

positive, suggesting what Laudouzy called "an attenuated bacillary septicæmia." The arthralgia is not attended by swelling. With regard to pathogenesis, some cases begin in healthy children like an eruptive fever, and others are seen in the course of infections, either acute, such as diphtheria, typhoid fever, strepto- or meningococcal infections or acute rheumatism, or chronic, such as malaria, syphilis or tubercle. With regard to those apparently primary it is suggested that they are a manifestation of tubercular infection. In a large number of cases evidences of tubercle appear within a few months, and in others tuberculosis is present at the same time. Von Pirquet's reaction is often positive, and the injection of tuberculin gives the characteristic reaction, but the bacillus has never been obtained from the lesions. The authors then conclude that erythema nodosum is frequently an evidence of a concealed tuberculosis and the lesions are produced by the toxins of this organism.

J. PORTER PARKINSON.

**Changes in the umbilical cord in syphilis** (*Riv. di Clin. Pediat.*, 1911, ix, p. 613).—**M. Dominici** has made careful researches on the cords in seven cases. He finds them in the majority of cases thickened to about double the normal size. The lesions are most marked at the placental end; this is important with regard to the theory of the placental transmission of syphilis. He does not share the opinion of Bondi, Ziegler and others, who hold that the gumma alone is the evidence of specific lesion. He found numerous treponemata in cases where there were neither gummatous nodules nor gummatous infiltration with necrosis; hence the spirochætes, besides causing specific lesions, can also produce inflammatory processes. In one case, besides perivasculitis, there were gummatous nodules in an artery with intense necrosis. Slight structural changes were met with in some cords. In one of a fetus that died immediately after birth, and whose mother was undoubtedly syphilitic and had a positive Wassermann reaction, there was no trace of recent or old inflammation. A disturbance in growth produced by toxins is often the only explanation. In another case there was hyperplasia of the internal muscular layer and sclerosis, probably inflammatory. In another there was thickening of the walls of the veins. There were also decided changes in the elastic fibres. The specific organism is almost always to be found in the umbilical cords of syphilitic fetuses—an important fact as regards treatment and the prevention of transmitting the disease to a healthy infant perhaps suckled by the same wet-nurse.

VINCENT DICKINSON.

**Chancre of scalp in an infant** (*Berlin. klin. Woch.*, 1911, XLVIII, p. 792).—**L. Weiss** could find only twenty-one cases of chancre of the scalp on record, including the following personal one: An infant whose mother had contracted syphilis five years previously, and in whom Wassermann's reaction was still feebly positive, developed two hard chancres close to one another on the scalp three weeks after birth. Spirochætes were found in the lesions. A few weeks later a maculo-papular eruption appeared first on the face and then on the trunk and limbs. Rapid disappearance of the symptoms followed sublimate injections. The source of infection was not clear, as the mother, who had undergone several inunction cures, did not present any lesions. The case is a remarkable exception to Profeta's law, inasmuch as the child was not immune in spite of the mother being syphilitic.

J. D. ROLLESTON.

**Syphiloma of the tongue in a girl** (*Arch. de Méd. des Enf.*, 1911, xiv, p. 288).—**Comby** and **Schreiber** report a case of sclerous glossitis in a girl, aged 6 years, a lesion of rare occurrence in children. In the middle of the dorsal surface of the tongue was a slightly raised patch, the size of a shilling. The surface was denuded of epithelium, with a deep transverse fissure in the centre. The margin of the lesion was sharply defined by a furrow, except at the posterior part, where a narrower prolongation merged with the rest of the tongue. On palpation the lesion was found to be considerably indurated. In addition to this lesion, the tonsils were much enlarged and of a lardaceous appearance; right tonsil presented a deep fissure. Adenoid vegetations were also found. At the left commissure of the lips was a mucous patch. Typical Hutchinson's teeth were not present, but the upper median incisors presented multiple erosions; the lower incisors similar erosions, but less marked. Wassermann's reaction was positive in mother and child. The authors regard the lesion of the tongue as a tertiary syphiloma, belonging to the class of insular cortical glossitis.

C. F. MARSHALL.

**Syphilis and congenital mental defect** (*Journ. Ment. Sci.*, 1911, LVII, p. 499).—**C. G. A. Chislett**.—Few acute cases of infantile syphilis show changes in the central nervous system on post-mortem examination; on the other hand, Heubner found that of 230 idiots, fifty had syphilitic parents. Wassermann's reaction was performed on fourteen idiots or imbeciles; eight of those gave a positive reaction, only two showed pegged teeth, but 5 showed bossing of the forehead and depressed nasal bones. Five cases had internal or external squint, and of these as many as four gave a positive Wassermann. Two cases of juvenile general paralysis in girls aged 8 and 13 years, afforded positive reactions both with blood and cerebro-spinal fluid; one of them developed deafness and keratitis. Of three epileptic imbeciles one was positive, and of three paralytic idiots all were negative. The family of a general paralytic were examined. The father and patient, his wife, and three of their six children reacted positively to the Wassermann test. The eldest child was a boy, aged 16 years, who was nervous and stupid at school but presented no definite signs of the disease; the second was a girl, aged 12 years, deaf in one ear; and the third, a boy, aged 8 years, had rhinitis and conjunctivitis. The author concludes that syphilis plays a larger part in the causation of mental affection than is generally supposed.

CHRISTOPHER ROLLESTON.

**Wassermann's reaction in the new-born** (*Lyon. Méd.*, 1911, cxvii, p. 112).—**M. Pilon** communicated to the Soc. de Méd. de Lyon the results of Wassermann's reaction made in twenty-two new-born children. In Group 1, where from clinical facts it was impossible to affirm or even suspect the existence of syphilis, out of seventeen children the reaction was negative twice and positive fifteen times. In Group 2 where syphilis was clinically certain or probable, out of five children the reaction was positive four times and negative once. In this last case the mother was undoubtedly syphilitic; the infant had never been treated, presented no signs of syphilis and grew normally.

VINCENT DICKINSON.

**The Wassermann reaction in hereditary syphilis** (*Cleveland Med. Journ.*, 1911, x, p. 291).—**R. Dexter** and **C. Cummer** obtained 88.2 per cent. of positive reactions in cases of congenital syphilis with obvious



symptoms. They remark that the reaction has shown that Colles's law must be revised, or interpreted in another way. Examination of the mothers of congenitally syphilitic children, who have themselves no symptoms, has shown that many of them have latent syphilis. They conclude that the test is an aid to clinical observation, but can never supplant it; also, that the results should be interpreted by one who has experience both of the clinical and the serological sides of the question. **W. C. Stoner** (*ibid.*, p. 307) found ten positive reactions out of seventy-five cases of imbecility, cretinism, idiocy and feeble-mindedness, in none of which could a history of syphilis be obtained.

C. F. MARSHALL.

**Hereditary syphilis and the Wassermann reaction** ('*Arch. of Pediat.*,' 1911, xxviii, p. 484).—**M. S. Reuben** begins his interesting paper with an account of the history of the most important discoveries in syphilis, and an excellent explanation of Wassermann's reaction. The sperm rarely infects the ovum. Usually infection is carried from the mother by the placenta, so that if the infant is syphilitic the mother is so too, though she may show no signs, in fact 90 per cent. of the parents who have congenitally syphilitic children give a positive Wassermann. Statistics from other authors are quoted to show that the percentage of mothers who react positively to Wassermann's test is the same as that given by women in the early latent stage of the disease. The greater the number of children born to one woman, and the longer the period of time elapsed since the birth of the last syphilitic infant, the less likely is the Wassermann to be positive. Profeta's law that children born to syphilitic parents are to a certain extent immune to the disease is proved to be untrue, for 90 per cent. of such children give a positive Wassermann. If treatment is begun early 75 per cent. of syphilitic children give a negative reaction within one month, but if treatment is neglected for six months only 33 per cent. Potassium iodide, atoxyl, and soamin have no influence on the reaction; "606" brings about a negative result in a period varying from two to six months. The author says that neither mercury nor "606" cure syphilis, but simply transform an active into a latent form of the disease. Infantile mortality is seriously affected by syphilis: only 5 per cent. of the conceptions of syphilitic women result in children who survive the first year of life.

CHRISTOPHER ROLLESTON.

**Wassermann's reaction in the blind, deaf-mutes and epileptics** ('*Hospitaltidende*,' 1911, liv, p. 343).—**O. Thomsen** and **W. Leschly**.—The investigation was made in the State Serum Institution in connection with a previous inquiry (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, viii, p. 284) with the following results. Among 146 blind persons whose ages ranged from 5 to 20 years not a single one gave a positive reaction; out of 344 deaf-mutes aged from 5 to 40 years only three reacted positively, among 259 epileptics from 5 to 70 years only one was positive. The writers conclude that inherited syphilis does not play a greater part in the ætiology of these affections than has hitherto been supposed.

J. D. ROLLESTON.

**Salvarsan in sucklings** ('*Berlin. klin. Woch.*,' 1911, xlviii, p. 511).—**Döblin** reports six cases of sucklings injected subcutaneously with salvarsan. Four of the six infants died—half a day, one day, four days, and three and a half weeks respectively after injection. The dose injected varied from 0.025 to 0.06 gm. Two infants who survived the injection improved as regards their skin eruptions, but one relapsed, and

there was no effect on the glandular swellings or rhinitis. Two of the fatal cases were in good condition and two in bad condition before injection. In one of the fatal cases, a well-nourished infant which died four days after an injection of 0.03 grm., the autopsy revealed acute œdema of the subcutaneous tissue and mesenteric glands, signs suggestive of arsenical poisoning. In the fatal cases no spirochætes were found in the liver. [It was originally claimed for salvarsan that it killed the spirochætes; this may be true in the cases where it also kills the patient.—C. F. M.] C. F. MARSHALL.

**Salvarsan in congenital syphilis** (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 730).—Hochsinger reported two cases: (1) A well developed breast-fed child, aged 10 months, showed a papular rash and a diffuse infiltration of the soles. Within a week of an injection of 0.08 salvarsan the symptoms disappeared. Seven weeks after the injection there was a relapse of a macular character affecting the face and soles. (2) A hand-fed child, aged 7 weeks, showed Parrot's pseudo-paralysis and coryza. Five days after an injection of 0.07 salvarsan it could move its arms again. Hochsinger proposed to re-inject the cases. No bad effects were noticed, but only a slight febrile reaction of one day's duration. J. D. ROLLESTON.

**Salvarsan in the syphilis of children** (*Wien. klin. Woch.*, 1911, XXIV, p. 583).—J. von Bokay, L. Vermes, and Z. von Bokay.—Twenty-six children, twenty-three with congenital and three with acquired syphilis, were treated with salvarsan. Their ages ranged from 0–11 years. Thirteen were under one year, but were fairly well developed and breast-fed. Intra-gluteal injections were given in every case but one, in which a subcostal injection was given owing to dermatitis of the buttocks. The intravenous method was not employed. In only one case was the indirect method used, *i.e.* injection of the mother who showed definite symptoms of syphilis. In this case a marked Herxheimer's reaction occurred in the child a week after the mother's injection and did not entirely fade until a direct injection had been given. Second injections were given when the symptoms were slow in clearing up and Wassermann's reaction continued positive. As a rule it became negative by the sixth or eighth week from injection. In three cases relapses occurred. High fever was hardly ever seen, but only a slight increase of pre-existent fever. In every case but one a rapid increase in weight occurred as the result of treatment in marked contrast to the slow increase which follows the use of mercury. Salvarsan had a rapidly curative effect on the maculo-papular rash, condylomata, osteo-chondritis, paronychia, coryza, and parenchymatous keratitis. In conclusion, the writers recommend salvarsan in preference to mercury for breast-fed children in good condition, but add that time will show whether the effect will be durable. J. D. ROLLESTON.

**Salvarsan in syphilis of children** (*Journ. Amer. Med. Assoc.*, 1911, I, p. 405).—L. Fischer records three cases in children aged 18 months, 6 years, and 8 years. The immediate result in each case was marked improvement as regards the effect on the visible gummata and condylomata, but in the youngest child the intra-gluteal injection of 0.3 grm. was followed by symptoms of toxic neuritis. Fischer thinks the symptoms may have been due to idiosyncrasy, but he regards the dose given as too large and recommends 0.1 grm. for future injections. He strongly deprecates the injection of ambulant patients with salvarsan. J. D. ROLLESTON.



## Review.

MALADIES DES Os, par MARFAN, professeur à la Faculté de médecine de Paris, APERT, AVIRAGNET, L. BERNARD, M. GARNIER, J. HALLÉ, MILIAN, médecins des hôpitaux de Paris. 1 vol. gr. in-8 de 755 pages avec 164 figures. Broché: 15 fr. Cartonné: 16 fr. 50. (Librairie J.-B. BAILLIÈRE ET FILS, 19, rue Hautefeuille, à Paris.) 1912.

THIS authoritative work, which forms the 39th fasciculus of 'Le Nouveau Traité de Médecine et Thérapeutique,' edited by Professors Gilbert and Thoinot, deals with diseases of bones, both in adults and children, from a medical point of view, and thus is complementary to Maucclair's fasciculus in 'Le Traité de Chirurgie,' edited by Professors Le Dentu and Delbet. The line between medical and surgical affections of bone is perhaps rather uncertain, for while this volume does not deal with fractures or malignant disease of bone, it describes osteomyelitis, osteitis, and multiple exostoses. The important subject of rickets is fully and originally treated by Professor Marfan in an article of 250 pages, which will serve as a valuable source of reference for many years. The same author gives an account of Barlow's disease (infantile scurvy), which appears to have been first described by Monfalcon in 1820, then as "acute rickets" by Möller in 1859, and in 1871 by a Danish physician, Ingerslav, who regarded his case as one of scurvy in a baby. The name "Barlow's disease" was suggested by Heubner. Milian gives a good account of syphilitic bone and joint disease, in which due attention is paid to the manifestations in early life. The more obscure and rarer forms of bone disease are clearly dealt with, and provide extremely interesting reading. As already hinted, this volume is a valuable and trustworthy source of reference.

H. D. ROLLESTON.

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## Correspondence.

### NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION.

*To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.*

DEAR SIR,—The Council of the Association would be grateful if you would kindly allow a notice to the following effect to be inserted in your valuable JOURNAL:

The Association is actively engaged in forming a library and bureau for the collection of all matters relating to pulmonary tuberculosis from every point of view, and in all countries. It is intended that such information shall be available not only to members of the medical profession but to the public at large. Valuable assistance would be rendered if medical officers of health, school medical officers, and medical superintendents or secretaries of hospitals, sanatoria, tuberculosis dispensaries, and open-air schools would kindly place the Association on their distribution list in respect of annual reports or other documents bearing on the question of consumption. Books, pamphlets, and reprints of articles from physicians and social workers in general would also be gladly received.

Believe me,

Yours very truly,

20, Hanover Square,  
London, W.

December 16, 1911.

J. J. PERKINS,

*Hon. Secretary.*

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

FEBRUARY, 1912.

No. 98.

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**Original Articles.**

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OBSERVATIONS UPON NERVOUS MANIFESTATIONS IN  
THE RHEUMATISM OF CHILDHOOD.\*

By F. J. POYNTON, M.D., F.R.C.P.Lond.,

*Senior Physician to Out-patients, University College Hospital, and Physician  
in Charge of the Children's Ward; Senior Physician to Out-patients,  
the Hospital for Sick Children, Great Ormond Street.*

GENTLEMEN,—I continue with this lecture the series I have been giving at the hospital upon acute rheumatism during the last ten years, and have now to consider the influence of the disease upon the nervous system. Without pretending to force upon you the explanation I have given throughout of the causations of this disease, I would ask you for the moment to accept it because I want to consider the nervous symptoms as direct results of the infection. Even if my conclusions should be wrong they will be of some interest because they are founded upon what appears to be a rational pathology, and they will enable you to see clearly the chief difficulties in the subject.

What I am asking you to accept for the time, then, is this—that the nervous symptoms in rheumatism are the result of either a local infection in the nervous centres, or of a general toxæmia. My personal inclination is to a local infection as the more important factor, because in other rheumatic lesions the tendency is to the pro-

\* A lecture given at the Hospital for Sick Children, November the 30th, 1911.

duction of local infections by the deposit of the micrococci. This, however, is a question which is at present open, but one which I emphasise now because I want to introduce here a short digression from the main subject of this lecture. We often hear mention made of the rheumatic poison and its specific antidote, salicylate of soda. Now, is there a rheumatic poison? It seems to me there are probably many rheumatic poisons, and I believe these bacterial poisons are so subtle in their nature that they vary with the tissue in which the local lesion occurs. If we could convert a living human brain, joint and heart into three culture media out of the body and inoculate them with the micrococcus and then analyse the poisons that were formed, I do not believe they would be identical. Bacterial poisons are extraordinarily complex, and clinical observation of the nervous symptoms in rheumatism leads me to believe that some of them are built into the very tissues, from which they can only be displaced by a process of time.

How else can we explain such a fact as this: that a child gets an attack of chorea and for a long time after its recovery remains nervous and excitable to a degree which was never in existence before the illness, except by the supposition that the metabolism of the nervous centres has been altered by some molecular combination with rheumatic poisons?

In course of time, if all goes well, the natural constitution, that is the usually healthy processes of the nerve-cells, gradually assert themselves again and displace the faulty element in their constitution. Some curiously subtle change apart from disease must take place even in the healthy human brain as it develops, for if there is one thing that is certain, it is that in adult life there is much less tendency to the development of chorea in an attack of rheumatism.

Now do we, I wonder, pay sufficient attention to the probability that the chemical products of bacterial activity are very dependent upon their media? Are we not still too much imbued by the notion that a bacterium is something which, if we could magnify it sufficiently, would have diphtheria, typhoid, rheumatism, etc., written on its back, when in reality whether or not it is such depends probably upon many factors, such as its own evolution, the condition of the patient's tissues, the atmospheric conditions and so on.

The bearing of such possibilities as these upon the stamping out of diseases, such, for example, as rheumatism and tuberculosis, are far reaching. It is thoughts of this kind, too, that disturb me when I read of stock vaccines. Take, for example, the rheumatic micrococcus. We have the original strain of twelve years of age but we



cannot do more than grow it. It is quite harmless. Is that, now, the cause of rheumatism? Have not years of life *in vitro* destroyed the essential properties, and have not its chemical reactions altered out of all knowledge? Could a vaccine obtained from this be of value? If not, how soon does such a stock vaccine cease to be of value? I dwell upon these points because they seem to me to have close bearing upon a problem which we must face in studying rheumatism. We find that the reactions of the various tissues to rheumatism are very different. So far as the connective tissues are concerned, and it is to these the micrococci are naturally carried by the blood-stream, we see much the same microscopic appearances, but the local effects of the bacterial toxins upon the noble tissues they support are widely different. In early life the synovial structures are often damaged but the damage is not severe; it is acute but not persistent. Compare this with a severe carditis and you realise this difference, and we must also realise how different the vital processes must be in an organ, such as the heart, which is in ceaseless movement. I have heard it said that if we could keep a heart at rest as we can a joint there would be another story. Possibly this is so, but who can prove it?

Why is the peritoneum so rarely affected in rheumatism but the pleura so frequently? Why is the pericardium so often acutely inflamed and the pia mater so rarely? Why does the micrococcus lose virulence almost immediately on agar-agar and preserve it much longer in fresh blood agar?

These are problems I imagine that are dependent in part upon the subtlety of the chemical reactions of these bacteria. They are, of course, not peculiar to the rheumatic organism. I can continue in the same vein with tuberculosis: thus, for example, why does this attack the joints and bones so often in the young and the valves and the pericardium so rarely? If I made use of that fact as a proof that the bacillus was not the cause of the disease you would laugh at me, but the same reasoning applied to rheumatism would, I fancy, be used as evidence against this micrococcus as a causal agent.

I fear you will think that I am detaining you with wild problems and questions of little practical value, but I am convinced that if you are prepared to accept that rheumatism is the result of an infection, you must also be ready to bring to the study of that infection, from whatever point of view, minds that are not hampered by those narrowing terms "specific bacterium" and "specific rheumatic poison." The disease we are studying is a specific one in the practical sense that it takes a very definite place in the diseases of childhood,



but what precisely constitutes that specificity we have yet to learn. There is little doubt that the only exciting agent is the diplococcus, but to imagine this micrococcus as an agent which possesses but one possibility—that of producing rheumatism under all circumstances, and of doing this by means of one poison constant under all conditions—appears to me far too crude a conception.

Now to return to the nervous symptoms.

These are numerous, but there are two phenomena which stand out as landmarks. One of these, chorea, is extremely common, the other, hyperpyrexia in childhood exceedingly rare. Both conditions Dr. Paine and I have had opportunities of studying with some completeness.

#### CHOREA.

Some of you will be surprised, I expect, at the way in this country in which we look upon chorea as an evidence of rheumatism. Even here, however, there is some trepidation about it, and when a classical article is demanded, a neurologist is called upon to undertake the task. I do not imply that he is not entirely capable of such a task, but it is evidence that there still lingers the idea that chorea is a functional disease of the nervous system. Although it may appear that I am flogging a dead horse, I shall in this lecture bring forward some statistics of my own upon the relation of chorea and rheumatism, for they have been collected over eleven years and enable me to mention some useful facts; but let me add at once that I am not going to assert that all cases of chorea are rheumatic in origin. Such a statement would introduce some conclusions which we cannot be warranted in drawing. If all chorea is rheumatic, then there must be some peculiar poison in rheumatism which produces an effect upon the nervous system unlike any other, but, as I have already stated, we are ignorant of the nature of the rheumatic poisons, and so at once in stating this we make an assumption. If clinical investigation showed that no other cause but rheumatism could be traced in every case, that assumption might be legitimate, but this is not so, for we always find a certain number of examples of chorea which if attributed to rheumatism would demand another assumption on our part, for we cannot get sufficient data to justify the claim. There are, for example, as I have myself seen, some cases of tubercular meningitis in which a chorea occurs indistinguishable from the rheumatic form. There are a few cases in which a fright or shock, if we trust to logical reasoning, is apparently the exciting

cause. Until we can explain these as due to rheumatism by evidence which is incontrovertible we lose rather than gain by the rigid statement that all chorea is rheumatic, because the future may disprove this, and the complete explanation of the disease may be delayed by an error that we have insisted upon as a truth.

You no doubt have often been struck with the frequency of chorea in early life and its comparative rarity in the adult, and if you are attached as I am to a General and a Children's Hospital you will have noticed that it is during the time of puberty that the decrease in frequency is marked. I find a certain number of the cases that I transfer after twelve years of age to University College Hospital develop this condition before they have reached fifteen or sixteen, and these are far more numerous in proportion than the adults. The inference seems to be that after puberty the brain becomes more resistant. The number of entirely new impulses to which it must react are becoming fewer, and it is less busied with its own developmental processes and more able to guard against external dangers. The rheumatic poisons, too, are evidently more able to attack growing and developing tissues. There is even a change in the character of chorea in early life. When it attacks very young children under three years the movements are curiously irregular, much less voluntary, more aimless, and exceedingly like the curious movements that I have seen in a rabbit as a result of intra-venous inoculation and in which the diplococci were demonstrated in the pia mater and brain. In older and particularly intellectual children the higher movements, those of the developing emotions, are sometimes greatly deranged, and curious attacks of a maniacal character are witnessed. Females are much more susceptible than males, and I am old-fashioned enough to believe that this marks a natural tendency to instability in the female brain. I would even go further and say that there must be some mysterious difference in the female metabolism, for not only do we find chorea more frequent and more chronic, but heart disease is more chronic as witnessed by mitral stenosis, and arthritis more chronic as witnessed by the tendency to rheumatoid affections in the later life of women who have been subject to rheumatism in childhood. What we call chorea is the fully developed disease with its remarkable irregular movements, loss of power, and other disabilities with which I need not detain you. I am more intent upon the pathology of the process and the condition of the nervous system. The onset may be abrupt, or acute, or very gradual. Occasionally we come across a case in which the onset reminds one of a cerebral embolus. There is a sudden com-

plaint of severe headache and partial paralysis, and the next day chorea commences and may be hemiplegic in type. I have never seen an autopsy on such a case, but it is tempting to believe that there has been a sudden cerebral infection, possibly from a cardiac vegetation, and the drawing I show you from the mitral (Fig. 1) valve of an acutely fatal case supports this possibility; further, we know from experiment that the rheumatic lesions develop with great rapidity when the infection is massive. The insidious cases seem to

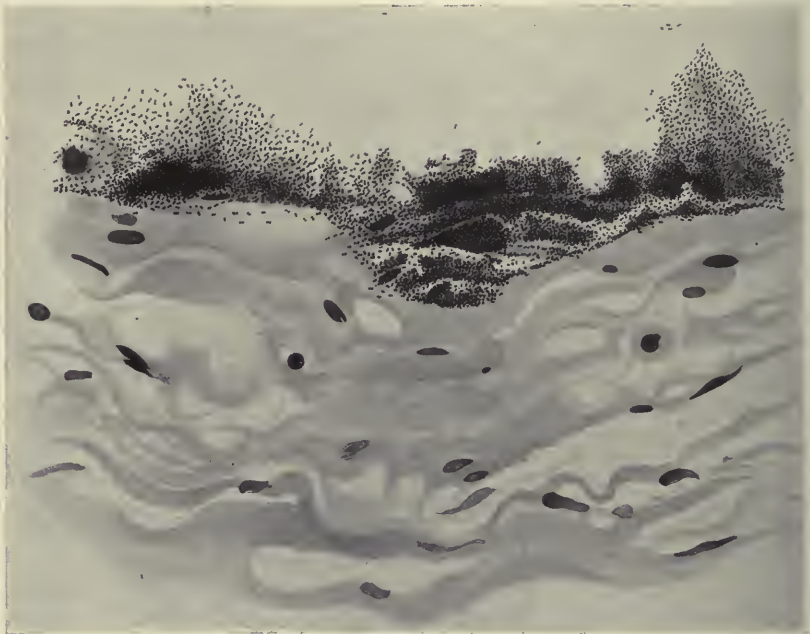


FIG. 1.—A section through the mitral valve from a case of acutely fatal chorea in which there was early acute endocarditis. The vegetations were minute, but vast numbers of the diplococci are visible in the tissues. (Poynton and Paine.)

me very instructive, for it is surprising how long a period—many weeks—may pass with a child showing the early signs of rheumatic cerebral disease before the obvious chorea shows itself. If we inquire as to what these warnings are, we find undue nervousness, headache, excited imaginings, sometimes bordering on delusions, night-terrors, irritability and fidgetiness. It is very probable if the temperature were taken that we should find a slight but definite fever. You can readily understand that during this phase a sudden fright or shock might precipitate the development of the chorea.



This insidious onset is of particular interest for several reasons. In the first place it brings rheumatism into line with other important infections, notably tuberculosis. It is an accepted fact that this latter disease may commence with indeterminate signs of ill-health, during which time we may suspect, but cannot determine, the actual cause, because our methods are at present comparatively crude. Again, it brings to your notice a great gap in our present knowledge of rheumatism, and that is the relative parts taken by the infective agent and by its toxins. These may well vary much in different cases, and indeed clinical study of the disease justifies such a presumption. There are, for instance, certain groups of cases in which a great deal of œdematous swelling appears around the infected joints, an œdema which reminds one of that produced by the sting of an insect. In these cases it is quite conceivable that the toxins of the micrococcus are peculiarly irritating either to the particular tissues or on account of the particular tissues of the individual. In chorea this early stage of warning may then depend upon the toxins produced by comparatively few bacteria.

Then, again, if such a sensitive organ as the brain will show such comparatively indefinite signs over so long periods, does it not suggest that a structure like the mitral valve may often be damaged for long periods also without giving rise to any signs that attract attention? This is the more likely when it is remembered that mitral stenosis most frequently commences in childhood in association with chronic and repeated chorea.

Chorea reminds us of yet another possibility in rheumatism which is of the greatest importance. Some cases may continue for years, they improve, and they are sent out of the hospital after prolonged treatment almost but not quite well. When they return to my out-patient department I find they have choreiform movements and manners, and that as a rule the return to home life has made these more obvious. Often enough they relapse, and I have some patients who have had seven or eight relapses in a few years. You might reply to me that this was largely the result of a permanent but slight brain injury from the first attack of chorea, and with excellent reason might dwell upon the fact that in all cases of rheumatic chorea we must bear in mind not only the infective process, but also the peculiar difficulty that nerve-tissue has in recovering from such a process. This, however, is not the entire explanation of such cases. I readily admit that the nervous tissues in such children are very slow in recovery, but we have also good evidence of renewed activity of infection in the increasing mitral stenosis that is apparent



after the repeated relapses. The particular point, the outcome of these observations, to which I would draw your attention is the probability that with cardiac lesions the same difficulty in estimating the recovery may arise, and that much more often than we believe patients leave our care with vegetations which are not really healed but are only comparatively quiescent. In former lectures I have made a point of stating that I have entirely cast over the widely held view that malignant endocarditis in the rheumatic is necessarily due to the invasion of scarred valves by secondary infections as irrational and unsupported by solid facts, favouring the view that it is often a truly rheumatic phenomenon, peculiar only in its tenacity and local virulence. Once more I would ask you, if you accept rheumatic endocarditis as infective, do you not think it a most unprecedented pathological fact that this endocarditis should always heal? Is it not much more probable that the healing processes may sometimes fail? If this is the case what kind of endocarditis do you think would result?

*Chorea and epilepsy* are not altogether rare, and I have watched several cases over a good many years; but it seems to me that they are associated and not interdependent cerebral lesions. On the other hand, chronic chorea seems to bring with it a distinct weakness of mind in some children, and one case of this kind which I traced until a chorea occurred during pregnancy was certainly on the borderland between the sane and insane. Several children under my care with chronic chorea have seemed to me very defective in mentality.

In acute attacks there may be definite delusions but they have always in my experience disappeared entirely with recovery.

It is a very interesting fact that after an attack of rheumatic chorea the character of a child may change very greatly. Mothers will tell you of extreme nervousness, irritability and lack of sustained effort, which were not noticeable before, and which I interpret as evidence of the extreme subtlety of the rheumatic poisons. Clearly when studying such conditions as these we are coming very close to the domain of the alienist, and are led to watch with interest all work on their side which throws light upon infective processes as a cause of insanity.

Another interesting point is the development of stammering after chorea. The speech affections of chorea apart from its possible tendency to favour subsequent stammering are also very interesting. The tongue is sometimes much affected—disproportionately so—and the necessary movements for the making of vocal sounds so damaged as to make speech impossible. Then, again, with right hemichorea,

there may be great interference with speech, and lastly a child may make no attempt to speak for many months and remain quite dumb. In all cases recovery occurs.

#### PATHOLOGY.

I have studied with Dr. Paine the bacteriology of fatal rheumatic chorea, and later I had the good fortune to be able to work with Dr. Gordon Holmes upon the minute pathology. Thanks to their assistance I am able to-day to show you drawings from the histological sections and films, which illustrate some of the important points, and with these I can show you how far such investigations have gone toward the explanation of chorea.

I will add here that all the drawings I am showing to-day are taken from preparations that have been demonstrated at the important medical societies.

The first I show is from a rabbit that died of carditis, and which during life had shown some curious twitching movements, sudden and involuntary in character, which resembled those of human chorea—they show the diplococci close to a blood-vessel in the pia mater (Fig. 2).

Compare Fig. 2 with Fig. 4, which is from a fatal human chorea. It is a film of the pia mater showing a blood-vessel with cellular exudation and the diplococci in the near vicinity.

This section of the mitral valve from a fatal chorea is an interesting demonstration of the presence of the micrococci in those tissues (Fig. 1).

These drawings illustrate the invasion of the cerebral tissues by the diplococci as I imagined it to occur in chorea.

The methods consist in making large films of the pia mater, staining and then clearing them, and looking along the minute blood-capillaries.

Secondly, films are made of brain substance from the cortex, and thirdly, sections of the cerebral tissue are made.

We now turn to some of the changes in the nervous system in fatal chorea as demonstrated by Dr. Gordon Holmes. The capillary diapedesis and vascular thrombosis I have already shown you.

As elsewhere with rheumatic lesions we get two classes of change, the vascular and inflammatory type, producing hyperæmia, minute thromboses, cellular and serous exudations, and probably in the chronic cases some little fibrosis. In the cerebral tissues themselves we get minute areas of softening. The nerve-cells particularly in

the cortical regions are swollen, and show the phenomenon of chromatolysis as illustrated by this drawing (Fig. 4). In some of the cells you will also notice that the nuclei are excentric. In those most affected there is also shrinking and loss of power to retain the staining reagents. Degenerated nerve-fibres were only found excep-

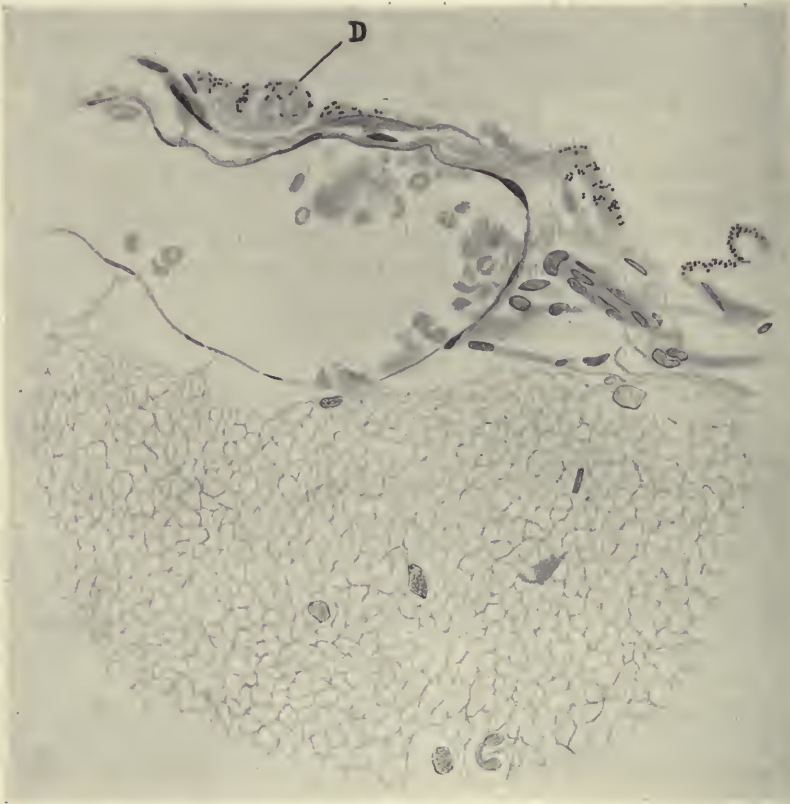


FIG. 2.—A section through the pia mater and cortex cerebri of a rabbit, which during life had shown for some days remarkable twitching movements of face and limbs the result of an intra-venous inoculation with the *Diplococcus rheumaticus*. Multiple arthritis also resulted. The figure shows a dilated blood-vessel in the pia mater, and *d* points to diplococci in the pia mater. (Poynton and Paine.)

tionally in our cases. Thus it is clear that the character of changes in the tissues of the brain in chorea is such as you meet with in a toxic process of mild degree. One is, I think, also forced to the conclusion that the rheumatic infection does not thrive with great facility in the cerebral tissues, or produce there toxins of extreme



virulence, for if this were the case, there would be much necrosis of cells and consequent degeneration of axis cylinders, and the development of a spastic diplegia of greater or less severity. Though,

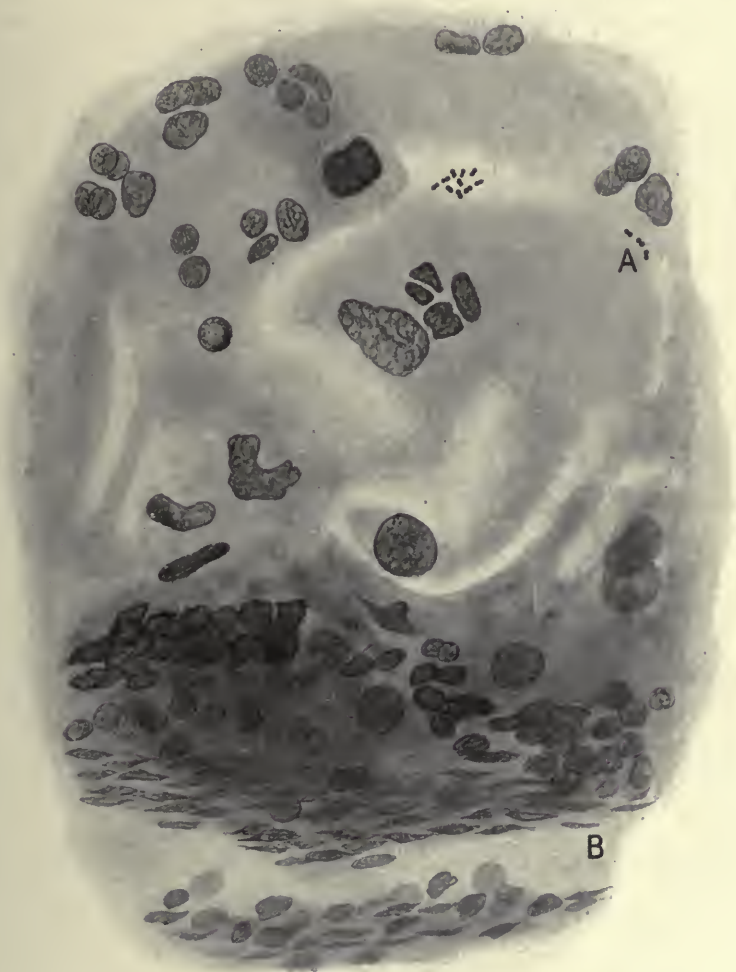


FIG. 3.—A film of pia mater from a fatal case of chorea (human). B is placed in the lumen of a capillary blood-vessel. A points to diplococci lying in the pia mater adjacent. (Poynton and Paine.)

however, not severe, the changes in the nerve-cells in the brain are very widespread, and as a clinical example of this Dr. Langmead has pointed out the occurrence of nystagmus, which in one of my cases was repeated on several occasions with each relapse of chorea.



I have no experience of the changes in the spinal cord in this disease. Triboulet *père*, many years ago, directed attention to peripheral symptoms in chorea, and you will not infrequently find that children complain of tingling and darting pains in their hands and feet in the early phases of this disease.

#### ANALYSIS OF CASES OF CHOREA.

I will next give you a few figures from a series of 500 consecutive cases of rheumatism. Let me first of all remark that in this series

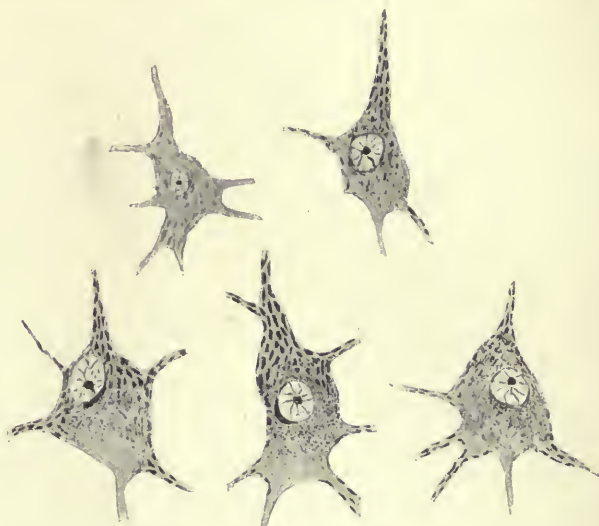


FIG. 4—Two large pyramidal cells, and three Betz cells from the precentral convolution of a fatal case of chorea (human), illustrating various stages of chromatolysis. (Gordon Holmes.)

I have placed all cases of chorea that came to me during the period over which the investigation took place. That is, I have taken a course which is the opposite of that usually adopted, and assumed the point that I want to make. I have taken all these cases of chorea as rheumatic and then critically examined the evidence I possessed for making such an assumption.

Of the 500 cases of rheumatism, 225 came to me with chorea as one or the only symptom. None has been considered twice, although there were a considerable number of relapsing cases.

In 8 my notes were imperfect and useless, leaving only 217 for analysis: 122 of these had obvious heart disease and many of them other symptoms of rheumatism; 28 more had no convincing signs

of organic valvular disease, but were suffering from rheumatic arthritis and pains; 150 of the number are thus disposed of.

Of the remaining 67, in 22 cases there was dilatation of the heart.

Now there is considerable divergence of opinion upon the accurate diagnosis and significance of dilatation of the heart in chorea. For my part I am convinced, with my former teacher Dr. D. B. Lees, with whom I had the honour of working on the subject twelve years ago, of its frequency and importance as evidence of a rheumatic toxæmia. Nevertheless, I have not put this group of 22 cases with the previous two groups, which are evidently rheumatic in nature.

The present position of the figures is accordingly this: Of 217 cases of chorea with careful notes 150 were clearly rheumatic.

The remaining 67 cases came to the hospital with no gross heart disease, but 22 of them with what I regarded as evidence of dilatation. They showed, however, no arthritis or other cardinal evidence of the rheumatic state.

What other facts have I about these 67 cases? Before I answer this question, I must point out an initial difficulty, namely that of deciding what is to constitute a fright or brain shock. In spite of this we shall all be agreed that when there is no evidence at all of fright or brain shock forthcoming, this cause must not be assumed.

In 52 of the 67 cases, that is, in all but fifteen, there was no history of fright or strain that the parents could discover, and so we are driven to search for any evidence, past or future, that might throw light on the cause of the illness, in all but the fifteen attributed to fright: 7 I traced later as suffering from rheumatic heart disease and one of these who came originally for chorea, with absolutely no guide as to its cause, died three years later in University College Hospital of rheumatic carditis, under my observation. Another is now under me in the same hospital, in the last stage of chronic rheumatic heart disease; and another developed rheumatic arthritis in the hospital after admission.

In 10 of the cases chorea directly followed a sore throat.

In one case the mother had suffered from chorea, which might be interpreted to suit any view if it had not been that two sisters had also suffered from chorea and one from rheumatic fever.

In 19 I found a history of rheumatic fever in the family.

Fifteen of the 52 remain in whom I could get no light as to the cause at all, but two of these came back to me later with rheumatic heart disease.

We are now left with the fifteen ascribed to fright and shock.

Eight of these were directly attributed to overstrain at school and

in one of them two attacks were looked upon as the result of canings; but it was admitted that the boy had been troublesome and inattentive for some days beforehand.

One case was supposed to result from the sight of two men fighting.

One was ascribed to a fall in which the child injured an eye, but the chorea did not follow until twelve months later.

One was attributed to a dog jumping up at the child, the chorea following some weeks later.

One developed four days after the patient had seen her brother strike her father. It is noteworthy that the father had suffered from two attacks of rheumatic fever, and that some years later this child attended me for heart disease.

One very suggestive case followed within a week the overturning of a perambulator with two small children in it by the patient. It must be added that a sister suffered from rheumatic fever.

One case followed upon a boy putting a penny into a machine in return for which he was rewarded with an electric shock.

In the last case, a runaway horse came straight for a little girl, and so frightened her that she was brought back in a "fit" and two days later developed chorea.

This record supports what many authorities have long maintained, that the main cause of chorea is rheumatism, and even reduces the question of fright and brain strain to the position of being interpreted as the active factor in producing the actually developed disease in tissues already unstable with rheumatism.

#### TREATMENT.

You are doubtless aware of the general fact that the more acute the onset of chorea the more rapid the course may be, whereas the subacute cases may linger on for many weeks and even months. This point has its scientific interest, for it helps to bring to your mind the two essential data that must guide you in the treatment. These are the activity of the infection and the particular nervous system of the individual. If the toxæmia is severe but the nervous system a healthy one, we may expect that the poison will be thrown off with more ease than when from the outset the child is highly unstable. There is another point I want to direct your attention to, which is, that chorea is very rarely fatal in itself. Almost invariably when death occurs it is the result of carditis. For this reason it



seems to me to be a great mistake in the present state of our knowledge to run any risk with powerful drugs. Yet there is sometimes a temptation to do this, because it may happen that you have upon some occasion pushed a drug and obtained a remarkable improvement. Now, I would assure you from a wide experience of chorea, that such a result may be obtained under many different circumstances. I have seen it follow the use of arsenic, chloral, trional, salicylate of soda, and also the abandonment of all treatment by drugs. There is no disease that is more uncertain in its course, and nothing short of a fairly uniform result from any particular treatment, in at least fifty cases would carry conviction to my mind that a remedy had been hit upon. To-day, if you ask me, in a case of developed chorea, how long I should expect the symptoms to last, I should think myself lucky if I had obtained a cure in six weeks. You will understand, then, that when I am asked, How do I treat chorea? I do not mention some particular drug or offer a prescription. I should like to be able to say that I destroy the infection in such and such a way and build up the nervous system afterward by such and such a tonic; unfortunately that is not yet possible. Salicylate of soda is the drug that would come to your mind for the first purpose, and for early and mild cases I often use it, combined with the bromides in moderate doses; but in well-developed cases it seems to me ineffectual. Aspirin I do not like as much as salicylate of soda, for it is acid and easily upsets the digestion. Anti-rheumatic serum has proved a failure so far in my hands, and vaccines, at present, I am not in a position to report upon. Rest, physical and mental, we all employ; but even these sometimes want a little consideration. A child surrounded by screens may remain choreic for weeks, and when these screens are taken away recover rapidly, because presumably the time had come when the nerve-cells required some tonic in the shape of brighter surroundings. Warm packs, often used by Sir Thomas Barlow for cases of chorea, repeatedly help you in soothing them for the night.

Whatever drugs or methods you adopt, you must be prepared to meet with some cases which after a few days of apparent improvement suddenly get much worse, and with this relapse there may be a sore throat or evidence of an exacerbation in the rheumatic infection. I have seen many striking examples of this occurrence in our wards.

The next group of drugs, rightly or wrongly, I look upon as entirely palliative; sometimes one will suit, sometimes another, but with the views on the pathology of the disease that I have put before you, I cannot entertain for one moment their curative action.



In the worst cases I prefer chloral and bromide; in other cases trional would seem more serviceable. Some have seen remarkable results with chloretone, others with antipyrin. It seems to me in every instance we are only dulling the nerve response, and though this is useful enough and sometimes demanded by the urgent movements, we are not justified in running to any extreme measures with them, and if one fails when given in moderate doses another may well be tried.

Five years ago I worked with Dr. Singleton upon the cerebro-spinal fluid in chorea, and I may add that the diplococcus has been recovered from this fluid. We found that very severe cases were on more than one occasion relieved by lumbar puncture. I do not advocate it as a routine measure, but if you have a very severe case it is worthy of trial. I do not understand why it succeeds, and only mention it as an empirical observation.

Arsenic I use for the cases of chorea in which the movements persist with a normal temperature, cases that I judge require a tonic and alterative for a nervous system unable to regain its normal balance.

Having seen some cases of arsenical neuritis, I am not in favour of massive doses.

Severe cases of chorea require very good nursing and well padded beds. Skilful nasal feeding is sometimes exceedingly useful when there is great difficulty in getting nourishment down, for it saves the strength and allows of a regular supply of food. Always warn your nurses to be on the lookout for sores, for these may become most troublesome; and so look also for sores on the tongue or cheeks, or in the nose, for these by their continual irritation excite the child greatly and they are not uncommon.

The convalescence can be much assisted by fresh air and quiet, and suitable exercise and games for the encouragement of co-ordinated movements.

#### RHEUMATIC NEURITIS.

Although it is difficult to prove, for such cases are not fatal, there occur sometimes in childhood examples in which the stress of the rheumatic infection falls upon the nerve-trunks. Presumably a certain degree of interstitial neuritis is the result. Severe nerve pains may arise, and irritation may produce facial spasm or blepharospasm, or neuralgic pains with sudden local œdema. In adults we are acquainted with such a condition producing intolerable pain in

the head and scalp with the formation of small intensely tender nodes along the course of nerve-fibres. Occasionally these small tender nodes occur also in childhood. They are cases which may prove very intractable and prone to relapse.

Headache has long been recognised as a trouble to rheumatic children. It is one of the most frequent of the early signs of chorea; and is then usually dull and rather persistent. Migrainous attacks are another symptom. These may be very severe in anæmic rheumatic children suffering from aortic regurgitation, and may mark the commencement of a relapse. They would appear to be a part of that general nervous instability which is such a feature in some of the more delicate rheumatic children.

Phenacetin and caffeine relieve the pain better than aspirin or salicin, and should the attacks increase in frequency they are valuable warning to the physician that the child should have a short but complete rest, a proceeding which does not appeal to these excitable children but does them a great deal of good.

Habit-spasm or facial tic is in my experience more frequent in rheumatic children than in others and though I am quite certain that the tic is not as a rule a true chorea, I would add that it may be extremely difficult to differentiate it from true chorea, and that what one has taken to be a facial tic in a rheumatic child may be followed by true chorea.

Whether we ought to include the rare cases of sclerodermia that sometimes occur in rheumatism among nervous phenomena I am not prepared to say.

The subject of hyperpyrexia is too difficult to enter upon now, and would detain us too long. I will content myself with stating that such evidence as I possess points to it rather as a virulent toxæmia than as a particularly gross bacterial invasion of the body.

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#### SERIES OF MANIFESTATIONS OF ACUTE RHEUMATISM IN A BOY, AGED TEN YEARS.\*

By R. BARCLAY NESS, M.A., M.B., F.R.F.P.S.G.,

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THE case of which the following is an account has already on several occasions been the subject of clinical demonstration to students, and is now put on record partly for its own interest, partly

\* The case was shown at the Medico-Chirurgical Society of Glasgow on October the 20th, 1911.

to serve as a text for some observations on the manifestations and treatment of acute rheumatism in childhood.

The patient, a boy, aged 10 years, was first admitted to the Western Infirmary Glasgow, on February the 16th, 1911, with a history of having suffered eight weeks previously from pain and swelling in his ankles, knees, shoulders, elbows and hands. The larger joints improved within a few days, but those of the hands remained affected for several weeks. Five weeks after the onset of the illness several little round nodules were felt on the back of the head, which persisted till the time of his admission to hospital. Previously he had not suffered from rheumatism. He had never had tonsillitis, chorea, or scarlet fever. The mother was said to suffer from rheumatism in her hands, otherwise the family history was unimportant.

*Condition on admission.*—The boy was fairly well nourished though under normal weight, being 3 st. 9½ lb. without clothes. The skin was moist and free from rash. The mucous membranes were slightly pale. The temperature was normal.

What deserves special notice was the presence of numerous small *subcutaneous fibroid nodules*. These were most numerous and largest in the head, chiefly in the occipital region, though one or two could be felt also in the parietal regions. They were present, too, on the elbows over the condyles and on the olecranon processes; on the wrists over the ends of the ulnæ and radii, and along the tendons of the flexor muscles; on the hands over the metacarpo-phalangeal joints, and to a less extent over the interphalangeal joints; on the legs they were found over the knees at the sides of the patellæ, and on the ankles over the internal and external malleoli. They were absent in other positions where such nodules are often found, for example on the scapulæ, the spines of the vertebræ and the crests of the ilia. In the various situations first mentioned one or two or more nodules were to be found. In size they varied from that of small shot to that of split-peas; a few were even larger. They were subcutaneous and easily felt, but only distinctly seen when the skin was stretched over them as when a joint was flexed. They were firm and hard but not tender; nor was the overlying skin reddened or in any other way involved. The various joints said to have been previously affected were neither swollen nor painful. The arthritis had practically disappeared.

*The circulatory system.*—The pulse numbered 108 per minute, was regular in force and rhythm, of fair volume, but of rather low tension. The examination of the heart showed the pulsation at the



apex to be diffuse, being felt in the fourth and fifth spaces and in the latter slightly outside the nipple line. The cardiac dulness was a little enlarged, extending transversely from the right border of the sternum to  $3\frac{3}{4}$  in. to the left of the mid-line, giving a measurement of  $4\frac{1}{4}$  in. The upper border lay on a level with the third rib. At the apex there was heard a short, soft, blowing murmur, ventricular systolic in rhythm and well conducted into the axilla. At the aortic area the cardiac sounds were pure, while at the pulmonic area a ventricular systolic murmur was heard, probably conducted from the apex and followed by an accentuated second sound.

The interpretation of these facts was that the patient suffered from endocarditis leading to mitral regurgitation with slight hypertrophy and dilatation of the chambers of the heart on both sides. These facts were of special importance in view of the later developments.

The examination of the respiratory, digestive, nervous and genito-urinary systems revealed no abnormality of any importance.

*The diagnosis* was acute rheumatism. The evidence for this lay in the history of arthritis and the presence of subcutaneous fibroid nodules and endocarditis.

*Progress.*—During his residence the patient was treated with aspirin for over five weeks and kept in bed for nearly four. The nodules gradually became smaller and were all gone before he was dismissed on March the 31st. During all this time the temperature was normal except on the 16th when it rose to  $103\cdot2^{\circ}$  F. On the two following days the maximum temperatures were  $101^{\circ}$  F. and  $99\cdot6^{\circ}$  F. respectively. Thereafter the temperature remained normal till he was dismissed to the Lenzie Convalescent Home.

*Second admission.*—On April the 28th he was readmitted to hospital with severe *chorea*. He had only been at the convalescent home a week when one evening he got a fright through the breaking of a window in his bedroom, after which he remained nervous and sleepless all night thinking of robbers. When he went home a week later the mother says he was twitching all over and could not speak properly. A fortnight after this he was readmitted to hospital. The choreiform movements were then very bad and affected the whole body. He could not speak and was very emotional. He was thinner and paler than when he left the hospital.

The *rheumatic nodules* had reappeared. They were in the same situations as before, were quite as numerous, and in some parts, *e. g.* the occiput, even larger. Even in the absence of other facts already narrated here was present an important index as to the rheumatic



nature of the chorea. The cardiac condition was practically as it was during his last residence. The temperature was normal.

*Progress.*—The patient was treated by absolute rest and suitable diet. Chloral hydrate and ammonium bromide as sedatives were given as required, while aspirin was given regularly in view of the rheumatic condition. By the end of three weeks the sedatives were stopped but the aspirin was continued for two or three weeks longer, after which the syrups of iodide of iron and of lactophosphate of lime were substituted. By this time all trace of the chorea and nodules had gone.

At the end of eight weeks (June the 22nd) he was allowed out of bed for a little. The effect of this was a slight evening rise of temperature to 99·4° F. Five days later it rose in the evening to 101° F. The pulse was rapid and soft, numbering 120 per minute. A distressing dry cough developed and he complained of pain over the heart. Next day pericardial friction was detected so that another link, in the form of *pericarditis*, had to be added to the chain of rheumatic events. The pericardial friction sound was characteristic and best heard at the base of the heart and down the sternum. At the apex the mitral regurgitant murmur, soft and blowing in character and conducted into the axilla, could be easily differentiated from the friction sound. The area of cardiac dulness remained the same, indicating that at the time there was neither any further dilatation of the heart nor any great pericardial effusion. Shortly after the onset of the pericarditis the rheumatic nodules again appeared, but not to the same extent.

For a week the patient remained very ill. His face assumed an aspect of anxiety; his breathing became so embarrassed that he required to be propped up in bed. He was restless and sleepless. The temperature was moderately elevated but irregular; only once was it as high as 102·6° F., at which time the pulse was very soft and rapid, numbering 158 per minute.

On July the 2nd signs of left *pleural effusion* were detected and the right border of cardiac dulness was found two inches to the right of the mid-line; this was ascribed to displacement of the heart. The signs of the effusion were more marked on the following day. This pleurisy was another link in the rheumatic series.

During this period the patient was treated again with aspirin and small doses of ammonium bromide and syrup of codeine. As the patient objected strongly to the application over the heart of the ice bag as recommended by Lees, warm gamgee and belladonna liniment were applied instead and apparently with some relief.

From July the 4th there was a gradual and progressive improvement, so that within a fortnight the signs of pericarditis and pleurisy were practically gone. The only fact necessary to record now is that the patient had two slight *recurrences of the chorea*, the first in the beginning of August a week after he had been allowed out of bed, the second at the end of September, after having been allowed up for a short time daily for the month previous. Rest in bed and aspirin stopped the recurrences very promptly. The fibroid nodules were never much in evidence after the acute illness in July, though careful search would reveal one or two from time to time. When he was dismissed from the hospital on November the 7th he was very well except for the cardiac lesion. The right and left borders of cardiac dulness lay 1 in. to the right and  $3\frac{1}{4}$  in. to the left of the mid-line respectively. The mitral regurgitant murmur was very loud. The condition evidently was fully compensated for, cardiac symptoms being entirely absent. The nodules had disappeared.

*Remarks.*—Acute rheumatism in childhood is clinically very different from the same affection in adults. It is very exceptional for a young child to be admitted to the hospital with high fever, perspiring, and with joints so swollen and painful that movement in bed is impossible without great suffering. More common is it, as in the case described, to have the child admitted on account of some other manifestation of rheumatism, and with a history of a comparatively mild attack of arthritis, or with one of indefinite pains in the limbs without much apparent affection of the joints.

*Rheumatic series.*—The manifestations of rheumatism in children are very varied. The more certain of these are endocarditis, pericarditis, pleurisy, tonsillitis, exudative erythema, chorea and subcutaneous nodules. These along with arthritis constitute what Cheadle has called the rheumatic series. While more of these affections individually may owe their origin to some other cause than rheumatism, yet their association in children especially with the occurrence of nodules point to this as the undoubted cause. Among Cheadle's cases the one (1) which showed the largest number of events was that of a boy, aged  $4\frac{1}{2}$  years, who had during sixteen months before death, chorea, endocarditis, arthritis, subcutaneous nodules, erythema marginatum, and tonsillitis. In the case I have recorded here there is a series as complete though slightly different, consisting of arthritis, subcutaneous nodules, endocarditis, pericarditis, pleurisy, and chorea. These occurred variously combined, forming different phases of the illness all within seven months, though he was under observation for a longer time.

*Subcutaneous fibroid nodules.*—Barlow and Warner (2) in 1881 first pointed out the true clinical significance of these nodules, though their actual occurrence had been recognised by others before that time. These nodules are regarded as manifestations of acute or subacute rheumatism and are much more frequently seen in children than in adults. Often their presence is missed on account of their small size, and because they are not carefully looked for. They develop mostly in the neighbourhood of joints, but the joints are not usually affected at the time though they may have been shortly before. Thus they often appear when the temperature is normal. They are usually associated with other manifestations of rheumatism, particularly endocarditis, and this often assumes a severe and progressive form, which may terminate fatally. Sometimes the nodules present are very few, sometimes many. In the latter case they often appear in crops. The individual nodule may last from a few days to several months. Sometimes they diminish, to increase in size again. Ultimately they disappear spontaneously, leaving no visible or palpable evidence of their past existence. They are to be distinguished from the nodules that occur in association with chronic rheumatism (3) and rheumatoid arthritis. These latter occur in adults, are usually larger and tender on pressure, sometimes cause pain from implication of nerves, and tend to persist indefinitely. They are not accompanied as a rule by any cardiac complication.

*Chorea.*—No single case could better show the relation of chorea to other rheumatic manifestations of childhood, though more convincing evidence of this relationship has been obtained from a large series of cases of chorea, (1) where the proportion of those affected with rheumatism, before and after, has been determined, and where at the same time the very varied nature of this latter affection in children has been recognised. Though chorea in children is evidently a rheumatic affection in most cases, it is possible that it may occur apart from rheumatism. In the case described endocarditis, nodules and chorea were present together. For diagnosis the presence of these nodules is worth a great deal, as they may be taken as undoubted evidence of the rheumatic nature of the chorea as well as of the endocarditis.

*Cardiac and pleural lesions.*—Endocarditis accompanying rheumatic nodules is often of a serious type, tending, according to Cheadle, to be progressive and often to end fatally. In the case described, however, there was little variation in the murmurs to indicate a serious outlook. The dangerous development was the occurrence of



pericarditis. Rheumatic pericarditis of all forms is the most hopeful, but one has to reckon on the presence of myocarditis as well, a condition which has most to do with the production of cardiac failure. The child, however, passed through this critical period safely.

*Fever.*—Throughout the long period the child was under observation, and the rheumatism in some form was in evidence, the temperature was normal with the exception of the period when pericarditis and pleurisy were present. From this it may be gathered that even in the absence of fever, the rheumatic poison, whatever its nature, is capable of producing some of its effects, for example nodules and chorea; even in the absence of rheumatic manifestations the poison may still be present in the tissues ready to declare itself on a favourable opportunity; treatment should therefore be thorough and long continued.

*Treatment.*—During the early febrile period of rheumatism no medicinal treatment is so good as the exhibition of sodium salicylate and sodium bicarbonate. These medicines may be pushed at first, but should be continued in moderate doses for a considerable time after the temperature has subsided. If there should be a recrudescence of the fever the dose should be increased. If in spite of this the fever continues, quinine salicylate often acts well. If the joints are swollen and painful the local application of methyl-salicylate gives great relief.

When endocarditis occurs the salicylate treatment I believe is quite safe and beneficial. With pericarditis more care is required. The cardiac distress yields sometimes to the local application of the ice-bag as recommended by Lees. The effect is to slow and steady the cardiac action. If this fails belladonna liniment and warm gamgee may be tried. In the absence of signs of cardiac failure, rheumatic pericarditis may be safely treated with sodium salicylate and sodium bicarbonate in moderate doses, combined if necessary with tincture of nux vomica. If there is any doubt as to the purity of the first the natural product should be used. If the salicylates produce any distinct depression, the alkalis may be used in combination with the cardiac tonics and the salicylates stopped. Strychnine may be held in reserve for the more grave conditions.

The essential part of the treatment of rheumatic chorea is quietness, rest and feeding, but excessive movements should be controlled by chloral hydrate and the bromides; later on, or in the mild cases from the beginning, the salicylates may be employed. Aspirin in moderate doses is often used. During convalescence,



tonics, *e. g.* calcium, iron, quinine and arsenic, are all useful. The last may be used from the beginning of the illness when not of a severe type instead of the salicylates. In acute rheumatism of childhood, whatever form of medicinal treatment is adopted it is essential that plenty of time be devoted to the cure of the patient. Six months or more, not necessarily altogether in bed, given to the treatment of a first attack, may save a young patient from a life-long legacy in the form of chronic valvular disease of the heart—a condition which may afterwards prevent him from earning his livelihood by any work which involves any great degree of physical strain.

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## London and Provincial Societies.

### ROYAL SOCIETY OF MEDICINE.

#### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Friday, December the 15th, 1911.*

Dr. G. A. SUTHERLAND, *President, in the Chair.*

#### DISCUSSION ON THE TREATMENT OF TUBERCULOUS JOINT DISEASE IN CHILDREN.

Mr. A. H. TUBBY, dealt with the “indications for surgical interference in, and the nature of the operations which may be performed for, the treatment of tubercular joint disease in children.” He said that on account of the structure of bones and joints the period under discussion should be extended to the fifteenth year, as that is the time when activity of growth of bone ceases. He described tuberculosis of joints as such only in its initial stages, and all succeeding conditions of the parts, as a rule, avoidable sequelæ. The disease was not merely a joint affection, but was a manifestation of tubercular affection occurring in the joints. He pointed out the differences between the progress of tuberculosis of bone in children and adults, and showed that whereas in adults there is a tendency to limit extension of the disease by the formation of a fibrous barrier around it, in children this did not exist.

After reviewing the earlier methods of treatment he said that three factors were responsible for the great changes which had occurred in practice. These were (1) the effect of climatic and sanatorium treatment;

(2) the valuable aids to the diagnosis given by the Röntgen rays; and (3) the use of the new forms of tuberculin. In any case the duration of the disease must be reckoned in years and not in months. He was of opinion that the less surgical intervention was required in children under fifteen years of age, the better was the outlook as to recovery from the disease and the functional use of the part.

With reference to operative measures, he stated that abscesses responded more favourably to aspiration with injection of iodoform or camphor-thymol, than to incision and drainage. The tests of success of the more radical operations upon the joints were discussed. He regarded excision of the hip as a far from successful operation in any case. In the knee erosion was considered, but he preferred conservative measures, and if these failed he performed excision. In the upper extremities the problems were different from those in the lower, because in the former, highly complex movements were most important, and in the latter, weight-bearing stability was the main function. Therefore, if in operations on the joints of the upper extremity movements could be preserved, he advocated operation at an earlier date.

The treatment of focal and para-articular lesions was discussed, and finally dactylitis, a very formidable type of the disease, alluded to.

In conclusion he felt that conservative measures yielded better results both as to the cure of the disease and retention of function than the so-called radical operations.

Sir ANTHONY BOWLBY dealt with "the results obtainable without operation." He said that tuberculous diseases of the joints in children stood in a different position from similar diseases in the adult because of the much greater powers of resistance and repair shown by the affected tissues. He alluded to the pathological processes in tubercular infection of the bone, pointing out how rapidly bone might be absorbed in children, and suppuration only occasionally occurred. The growth of bone in the child was very rapid, and it was this absorption of tubercular bone and the growth of new bone which enabled the tubercular joints of children to repair themselves in so remarkable a manner. The soft parts in the child had this power of repair which was denied to the adult. But these powers of repair must depend largely upon the health and nutrition of the child, and hence it was imperative to attend to the general health. Good and plentiful food of an easily assimilable nature, in which milk played an important part, was essential. The bowels should be regulated, and iron, cod-liver oil and malt administered. All possible sources of ill-health should be attended to, especially tonsils, adenoids and carious teeth. The local treatment of the joints by splints was considered, and the recumbent position, even when a joint of the upper limb was involved, was insisted upon for a time. Emphasis was laid upon the importance of the open-air life. He thought he had seen tuberculin in some cases do some good. The advent of asepsis had completely altered the picture of tubercle in joints, and death was more often caused by sepsis than by tubercle. The greatest possible care was necessary in dealing with abscesses to prevent the joint becoming septic, and at the same time great care was necessary not to infect the neighbouring tissues with tubercle. His treatment of abscesses was aseptic incision and temporary drainage.

Even when there were open and septic sinuses, in the larger number of cases the limb could be saved by directing one's efforts to the general health of the child, and by doing all that could be done locally, and by the use of vaccines to obtain aseptic conditions. He amputated less and less frequently

for even apparently desperate conditions, for he had seen children recover from most extensive emaciation and amyloid disease with hectic fever, treated upon conservative lines.

The condition of the joint after recovery was considered, and in many cases treated early and for a sufficient length of time he had seen complete restoration of function, and except for a little impairment in the bulk of the limb it had been impossible to tell which joint had been involved. Almost all cases taken in the early stages were really curable in the widest sense of the term.

In his experience tuberculosis of the lungs or glands was a very rare complication. Occasionally a general tuberculosis occurred. In some cases the disease was polyarticular.

In concluding he gave a very favourable view of the curability of tubercular joint disease in children, expressing his opinion that what was wanted was increased accommodation in hospitals in the country for the treatment of the disease.

Dr. A. BUTLER HARRIS dealt with "the rôle of vaccine therapy." The Royal Commission in their final report had published evidence which went to prove that a considerable amount of tuberculosis in childhood was to be ascribed to infection with bacilli of the bovine type, transmitted in meals consisting largely of cow's milk. It was generally recognised, though not sufficiently guarded against, that tubercle bacilli were abundantly present in the milk of cows suffering from tubercular disease of the udder. But bacilli might also be present in the milk of tubercular cows which showed no evidence of disease of the udder, even when examined post mortem. Amongst working classes, environment, as well as food, was an important factor, and it must be admitted that a very considerable number of bacilli found in the joints of children gave the human reaction. As far as was known at present it did not appear to matter much whether, in the joint affections of children, the strain was of the human or bovine origin. The same tuberculin appeared to do well in every case, and the opsonic indices came out equally whether one or other strain was used. It mattered, however, in respect to the general hygiene of the child, for the surroundings must be as free from tubercle bacilli as the food.

In the diagnosis of tubercular joint affections, massive injections of old tuberculin had been abandoned: Calmette's reaction was out of favour with many, and von Pirquet's reaction, although reliable as to the diagnosis of tuberculosis in the human subject, could not differentiate the site of any particular lesion. The estimation of a series of tuberculo-opsonic indices was undoubtedly of use in the diagnosis. The method of estimating the indices was described. The objections to the use of the opsonic index, and the liabilities of error were mentioned, but in spite of these it was maintained that it was of considerable use in diagnosis.

Two methods of treatment were discussed: (1) Methods which will produce auto-inoculation; (2) administration of tuberculin.

Auto-inoculation was only practicable in the method of passive congestion, and in such the dosage could not be regulated, and a steep negative phase might result. The method was only practicable in joints distal from the trunk, and it was easy to realise that distal joints were less liable to pour excess of inoculating material into the body than the proximal ones. Ankles and wrists did better than knees and elbows under this treatment; it was not recommended for shoulders and hips. The advantage claimed for this method was that an autogenous vaccine was introduced. This, however, was



of little moment, since there was no evidence to show that one strain of tuberculin was better than another when used for therapeutic inoculation.

The administration of tuberculin was fully discussed, and the conditions under which it should be given. The information as to the value of tuberculin received in answer to a circular letter sent to thirteen hospitals was presented. The evidence was somewhat divergent: it was concluded that tuberculin, given in small doses under conditions of surgical rest, was a remedy which tended to accelerate the rate of recovery. It was generally the practice to administer Koch's tuberculin of human origin, whether the infection was of the bovine or human strain, and children on the whole did better on this than on the bovine strain. It was not necessary to employ the opsonic index during the whole course of treatment, provided the case was clinically pursuing a favourable course.

Mr. ROBERT JONES (Liverpool) said that there existed the greatest possible difference between tubercle in the child and that in the adult. Tubercle in the early stage in children nearly always ran a benign course, provided that certain things were attended to. The first was that the affected part should have absolute rest, secondly, the child should have absolutely good food, and thirdly, it should have good country air. He emphasised the importance of children being out of doors both day and night.

Immobilisation of the joint should be very complete, and care should be given to the position of the limb, which he described in detail. Children were often taken out of their splints too soon. He described his tests of recovery. His practice was never to open an abscess until it came up to the surface, and then only by a very small puncture.

Sir WATSON CHEYNE drew attention to the former practice, which was almost always operating, and said that now he practically never operated for a tuberculous joint in a child. He could not help thinking that tubercular disease of joints was milder than it was formerly; whether it was that the bacilli were less virulent he did not know. It was known there were diseases which gradually died out. The modern mode of living was certainly more hygienic. Operation for such diseases in children could not be put out of mind altogether; when in the early stage the disease was in one focus, removing that focus produced the best results.

In the treatment of abscess he employed antiseptics and asepsis, opened freely and scraped it out.

He always used tuberculin, and thought it did no harm, but he had not yet seen a definite good result which he could attribute to it.

Mr. H. J. GAUVAIN (Alton) was an ardent supporter of the conservative treatment, but was fully alive to the importance of radical treatment under special circumstances. His experience led him to believe that in many cases the course of the disease could be foretold, and if it were likely to run a serious course he believed in early operation. Abscesses he invariably aspirated.

He emphasised the importance of treating these children in the best country air, in country hospitals specially equipped for the purpose. If all early cases were so treated there would be about 95 per cent. of recoveries, mostly without deformity.

Mr. J. JACKSON CLARKE raised the point as to the number of cases apparently cured in infancy and the number which had recurred in later life. He said that there were a certain number which broke out again in later life. He had not seen a case ameliorated by tuberculin which had resisted other treatment.

Mr. SUTCLIFFE (Margate) emphasised the long duration of time these cases required to heal. It took many years to heal a case of tubercle; the average time for a tuberculous knee or hip was four or five years. Hip cases did best if continually kept in bed for many months. He used tuberculin, but could not say he had seen any definite results from it.

Mr. E. M. CORNER said that if there were abscesses the case would sooner or later come to operation, and he preferred to incise the abscess, wash it out and employ temporary drainage.

With regard to the number of cases which heal without operation he suggested that diagnosis was of importance. The diagnosis of a tubercular hip was really a diagnosis of inflammation of the joint, and the tuberculous nature was merely a matter of assumption, and the opsonic estimation did not add much to the presumption that it was tuberculous. He had seen a number of cases which were regarded as tuberculous, and gave the tests, which were really not due to tubercle. A good number of so-called tuberculous joints which got well were instances of infection by another organism and not by the tubercle bacillus. His experience with tuberculin agreed with that of the previous speakers, but he had seen cases which did not improve in the ordinary way get well when put on tuberculin. He suggested that some of the successes which followed tuberculin treatment were not due to it, but to some unknown factor which was not yet understood.

Mr. LOCKHART MUMMERY advocated the conservative treatment. When obliged to operate he did as little as possible, merely opening an abscess through a small incision, removing any caseous material, and immediately suturing the wound. When septic infection had occurred, he had found after scraping the sinuses that plugging them with gauze soaked in 5 per cent. formalin often gave good results.

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## LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

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*December the 15th, 1911.*

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**Abdominal Tumour Associated with Precocious Sexual Development.**—Dr. T. CHURTON showed a child, aged 5 years, in whom menstruation began at three years of age; the flow was somewhat irregular, but often at intervals of three weeks; it was scanty and painless. Pubic hair grew and breasts enlarged. Five months ago the abdomen began gradually to enlarge but the child was otherwise well. Subsequent operation showed the tumour to be a malignant ovarian, with metastasis.

**Sarcoma of Femur Resulting Directly from a Fracture.**—Mr. R. LAWFORD KNAGGS.—The patient was a girl, aged 14 years. She was admitted on August the 8th, having broken her left femur obliquely in the lower third. A skiagram showed a normal fracture.

Operation August the 8th; union then sufficiently firm to allow limb to be put up in plaster. When plaster was removed in October there was a large swelling noticed at the seat of fracture, and skiagram showed that much of the lower third of the bone was destroyed by growth. Readmitted on November the 11th. Amputation at hip-joint on November the 15th.

**Congenital Shortness of Right Femur, due to Delayed or Absent Ossific Centre in the Head.**—Mr. R. LAWFORD KNAGGS.—The patient, aged 1 year, was admitted in January, 1908. The right femur was then three inches shorter than the left. Right femur skiagram—no centre of ossification in the upper epiphysis. This was probably all cartilaginous, for there was a gap between the upper end of the diaphysis (which showed the small trochanter) and the acetabulum. On the inside of the pelvis the inward bulge corresponding to the acetabulum was symmetrical on each side. The great trochanter, neck and head of the femur showed no evidence of ossification. The lower epiphysis of the right femur was not so far advanced in ossification as the corresponding epiphysis of the left femur.

*Present condition.*—The right limb is much shorter than the other, but with a high boot he can get about well. Patella rudimentary.

*Cause.*—(?) maternal impression. When the mother was four months pregnant she tripped her right foot coming down some steps and fell.

**Fracture of Humerus.**—Mr. LAWFORD KNAGGS showed a boy, aged 7 years, who sustained a fracture through the surgical neck of the humerus, with complete displacement of the upper end of the lower fragment to the outer side of the head and adjacent portion of the diaphysis. Operation was necessary. In attempting to bring the fragments into alignment the portion of the shaft still attached to the upper epiphysis tore away, and the removal of this fragment enabled the upper end of the lower fragment to be laid in the vacant bed of periosteum in close apposition to the epiphysial line. Good union resulted.

**Cerebral Abscess following Compound Depressed Fracture of the Skull.**—Mr. J. F. DOBSON.—A boy, aged 9 years, had a brick thrown at his head by another child on September the 20th, causing scalp wound, which suppurated for some time. No operative treatment. Was admitted to the Infirmary on November the 8th, with symptoms of cerebral irritation. The wound was healed. On November the 14th much better, no headache, vomiting or other symptoms. Depression in bone at site of injury. Fluctuating swelling under scar. November the 15th flap turned down, exposing depressed fracture of skull. Depressed fragments, some of which were necrosed, were removed. Aperture in dura mater, through which pus was exuding. This was found to lead into the cavity of a cerebral abscess, from which an ounce of pus was evacuated. Drainage. Recovery without symptoms. The discs were not examined until after the operation, when no sign of optic neuritis was found.

**Birth Palsy.**—Mr. W. THOMPSON.—The patient was a boy, aged 7 years. There was much wasting of the scapula and upper arm muscles. The triceps, deltoid and scapula muscles appeared to be quite gone, but there was a little of the biceps left. The muscles of the forearm were quite normal in appearance. At the operation the middle cord of the brachial plexus was found to be divided and was grafted into the lower cord. Gradual improvement of the arm took place.

**Idiopathic Dilatation of the Colon in a Boy, aged 12 years.**—Mr. W. THOMPSON.—The boy had been troubled since he was seven. He was admitted with a history of rectal incontinence. He ate well, had no vomiting and no pain. The abdomen was large and protuberant.

**Rhinitis Caseosa.**—Dr. ALEX A. SHARP showed two cases: (1) Female, aged 9 years. Complaint: Offensive nasal discharge of several years' dura-



tion. When seen two months ago the right half of the nose was very much broadened, there was threatening suppuration of the tear-duct, and the right nostril was completely filled with a dirty, grey, soft, offensive, putty-like tumour. The tumour was removed some weeks ago, and there is now a very roomy right nostril due to atrophy of the turbinals, especially the inferior, and to the septum being pushed over to the left. There is still some slight discharge from the upper part of the nose. Microscopically the tumour substance is structureless. Organisms: Pneumococci, streptococci, large diplococci, and thin bacilli.

(2) Female, aged 5 years. Condition similar to above, but duration one month. Caseous mass was removed twelve months ago; no return. Interior of nose remains healthy.

**Paroxysmal Hæmoglobinuria, with Blood of Pernicious Anæmia Type.**—Dr. W. H. MAXWELL TELLING.—The patient was a boy, aged 15 years, who began to suffer from hæmoglobinuria when about six years old. In 1903 the bladder was explored for vesicle calculus, with a negative result. Since then he had had frequent attacks of hæmoglobinuria every winter, sometimes four times a week. Very rarely he had hæmoglobinuria in the summer, and then an attack *always* followed a fall in temperature. There was no pain of any sort, but just before passing the hæmoglobin he always felt exceedingly cold. There was slight enlargement of the spleen, marked anæmia. He did not suffer from dead fingers.

*Blood count.*—Red cells, 1,875,000; white cells, 13,600; hæmoglobin 45 per cent.; colour index, 1·2; polymorphonuclear leucocytes, 82 per cent.: mast cells, 1·5; eosinophile cells, ·5; transitional cells, ·5; lymphocytes, 15; large hyaline cells, ·5.

A stained film showed variation in size of red cells, megalocytes being common; some slight variation in shape; considerable polychromatophilia and granular degeneration of the red cells. Nucleated reds were common. The white cells appeared normal. The picture was that of pernicious type of anæmia, with, however, a slight leucocytosis and without any marked poikilocytosis.

**Infantile Palsy with Trophic Changes in Epiphysis about Shoulder.**—Dr. MAXWELL TELLING.—The child, aged 2 years, was found with its right arm wedged in a chair. Immediately following this it was feverish for a day or two, and on the third day could not move right arm. Condition was diagnosed as (?) "dislocated clavicle," and treated as such. The mother, on her own responsibility, undid the bandages. The condition was then thought to be probably one of damaged joint, possibly tuberculous. The skiagram now revealed the fact that the upper epiphysis of the humerus was practically non-existent, and the shaft of bone impinging upon the acromion in full outward extension caused some limitation in its movement here was the usual wasting of the muscles of the affected shoulder.

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#### CONGRESS OF THE ROYAL SANITARY INSTITUTE.

THIS is to be held at York from July the 29th to August the 3rd, 1912. One of the five sections is devoted to the Hygiene of Infancy and Childhood, the president of this section being Mrs. M. Scharlieb, M.D., M.S., and the recording secretary Prof. Ralph P. Williams, M.D., D.P.H., School Medical Officer, Sheffield.

## Philadelphia Pediatric Society.

December the 12th, 1911, J. TORRANCE RUGH, M.D., President.

**Acute Epiphysitis in an Infant.**—Dr. JOHN F. SINCLAIR presented the history and clinical picture of the case, outlining the differential diagnosis from tuberculosis, syphilis, rheumatism, scurvy and gonorrhoeal infection. He also pointed out the obscure ætiology and low virulence of the infection. The only treatment was fixation.

Dr. HENRY K. PANCOAST, by invitation, showed radiograms illustrating the progress of the disease, and explained his findings.

Dr. JOHN H. JOPSON had seen the case. Tuberculosis and syphilis were both excluded. An acute infection, most probably post-natal, occurred possibly through the umbilical cord. The wrist had probably been slightly injured, and epiphysitis resulted without suppuration. The value of the radiograms in revealing the progressive improvement was well shown.

Dr. JAMES K. YOUNG considered the case not an epiphysitis but as osteitis, since epiphysitis was usually followed by complete destruction of the epiphysis, which did not occur in this infant. He described epiphysitis of the hip, in which the epiphysis completely disappeared with suppuration.

Dr. SINCLAIR added that before this baby was born the mother had nursed another child with diphtheria, but this could not be proved to play any part in the ætiology.

**Diphtheroid Bacilli of the Penis, with Report of Two Cases of True Diphtheria of the Penis following Circumcision.**—Dr. JOHN A. KOLMER found diphtheroid bacilli from 100 cultures taken from the penis of boys from six months to thirteen years of age in 40 per cent. of the cases. Seven types of organisms, according to Wesbrook's classification, were found, 20 per cent. being virulent, 62.5 per cent. doubtful, and 17.5 per cent. negligible. Ten cases for circumcision were cultured just before operation, and forty-eight hours after operation: 5 per cent. were positive before and 3 per cent. after operation. All those cases recovered. Sugar tests indicated that these were not true diphtheria bacilli, and guinea-pig tests for virulence were all negative. The two cases of true diphtheria after circumcision were located upon the wound. Both the sugar tests and guinea-pig tests were positive, showing that these were cases of true diphtheria.

Dr. JOPSON had seen one of Dr. Kolmer's cases, and two others. The clinical appearance was frequently characteristic, especially if pseudo-membrane was present. He had noted in these cases persistent swelling with ulceration and absence of tendency to heal, which was seen in circumcision wounds even when infected. Membrane was frequently, but not invariably, present, and a positive culture clinched the diagnosis. The constitutional symptoms were usually mild.

Dr. C. Y. WHITE spoke of the diagnosis of diphtheria as made in the Laboratory of the Philadelphia Board of Health. When rare organisms were found cultures were re-incubated, and in twenty-four hours a positive result could be given. Dr. White had seen two cases of diphtheria following circumcision, with typical membrane. Sugar tests had given good results in England, as they had done in Dr. Kolmer's cases.

Dr. S. McC. HAMILL asked whether the cases reported by Dr. Kolmer and those referred by Dr. Jopson had been exposed to other cases of diphtheria. Dr. Hamill thought that the absence of such exposure and the presence of the various types of the organism in these cases suggested a confirmation of the idea that the seemingly non-virulent types might sometimes take on virulency. The suggestion made by Dr. White in his remarks, that they had found in the Health Department that the short thick types of organisms sometimes change their morphology on the first transfer, was a factor which might be thought of in this connection. The entire problem was a difficult one, and in the light of present knowledge, and in the presence of increasing numbers of cases of diphtheria, it would seem to be the duty of the clinician to give his strongest support to the position taken by the Health Department, that all cases showing organisms of a certain class must be considered virulent until proved otherwise.

Dr. KOLMER said that both of his cases gave the usual sugar tests. It was impossible to determine whether these cases had been exposed to diphtheria, as they followed operation performed in the dispensary of the Children's Hospital. Neither case showed the presence of diphtheria bacilli in the nose or throat.

**The Occurrence of Venous Hums in Children.**—Dr. H. R. M. LANDIS, and, by invitation, Dr. ISADORE KAUFMAN, read a paper reviewing the literature upon this subject and the theories advanced to explain the occurrence of venous hums, with results from the observation of 99 children and 26 adults. The latter all had tuberculosis. The children were brought to the Phipps Institute because some member of the family had, or was suspected of having, tuberculosis. Venous hums were found in 84 children, being loudest on the right in 42, on the left in 17. There was apparently no relation between tuberculosis and the murmur. They concluded that a venous hum was found in the majority of children under fifteen years of age, tending to diminish in frequency as that age was reached and finally disappearing. When anæmia was present the murmur had less tendency to disappear in the recumbent posture.

Dr. HAMILL said that he had been very much interested in Dr. Landis' paper, particularly because he, in conjunction with Dr. Le Boutillier, had studied these venous murmurs somewhat extensively several years ago. The results of their studies corresponded very closely to those of Dr. Landis, especially in relation to their dependence upon anæmia, to the position and distribution of the murmurs, and to the effect of the position of the body upon them. He thought that in their studies they probably found the murmurs having their maximum intensity on the left side more often than Dr. Landis had. Eustace Smith's sign was elicited in several cases, but in children who had no other evidence of enlargement of the peribronchial glands, and they had referred to this murmur as having no diagnostic significance in this connection.

**The Comparative Caloric Value of Various Foods used in Infancy and Early Childhood.**—Dr. CLIFFORD B. FARR showed portions of foods so adjusted as to produce 100 calories, or in certain cases 25, 50 or 75 calories. Liquid foods and those in powder form were exhibited in graduated nursing bottles, while the solid foods were preserved in specimen jars varying in capacity from 30 to 600 c.c. To each bottle or jar was attached a tag showing the amount of food in grammes or cubic centimetres



required to produce 100 calories, and on the reverse side a diagram representing the relative proportions of calories produced by the proteid, fat and carbohydrate, as well as the weight in grammes of each substance. Thirty bottles illustrated milk in its different forms and dilutions as used in infancy, with various diluents and milk substitutes. Forty jars and bottles represented the articles of diet used in early childhood, including meat, fish, fowl, eggs, vegetables, bread, cereals, fruits, nuts, sweets, and dairy products. Finally, the method of grouping various articles into a dietary and then calculating the caloric value as well as the amount of proteid, fat and carbohydrate was illustrated. Dr. Farr added that, although he had emphasised the value of the method of Fisher in the preparation of diets and in the teaching of food values, he was not unmindful of other important factors. For instance, a ready method of calculating the amounts of proteid, fat and carbohydrate had been provided.

**A Rapid and Simple Method of Determining the Caloric Value of Percentage Mixtures.**—Dr. FREDERICK FRALEY demonstrated a simple method of determining the caloric value of the baby's food when its percentage is known. He found that twice the fat per cent. plus the sugar per cent. and the proteid per cent. multiplied by one and one quarter times the total quantity in ounces for the day equalled the total caloric value for the day's feedings.  $(2F + S + P.) \times 1\frac{1}{4} Q = C$ .

Dr. HAMILL said that Dr. Fraley had kindly given him a copy of his formula some months ago, and that he had used it and found it not only convenient but fully accurate.

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## Société de Pédiatrie, Paris.

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*November the 14th, 1911. (Bulletin No. 8.)*

**Decompressive Trephining.**—M. BROCA, commenting on the case shown by M. DEBRÉ at the last meeting, advocated craniectomy to diminish pressure symptoms in cases of cerebral tuberculosis, serous meningitis and even malignant tumours. Very satisfactory results had followed in a case sent to him by M. Comby. The child was almost blind, could not stand upright, and suffered from headache and vomiting. The clinical aspect was that of a small cerebral tumour, probably a tubercle in the mesencephalon.

M. COMBY said he had seen the child lately, several months after the operation, and he had completely recovered.

M. HUTINEL showed the brain of a child operated on by M. Broca for intra-cranial hypertension. The case was one of posterior basilar meningitis with thickening of the pia mater on the inferior surface of the cerebellum.

**Cerebral Rheumatism with Acute Mental Disturbance in a Boy, aged 7½ years; presence of Salicylic Acid in the Cerebro-spinal Fluid.**—MM. NOBÉCOURT and DARRÉ.—During the course of acute articular rheumatism with affection of the mitral and aortic valves, the boy was seized on the fifth day of the illness with delirium, hallucinations, hyperæsthesia, followed by mental depression amounting almost to stupor. He had been treated by salicylate of soda, but in small quantities. Lumbar puncture was performed six times, and the reaction for salicylic acid was distinctly obtained in the fluid on the second and third occasions.

The authors discussed the question whether the case was one of cerebral rheumatism or salicylic intoxication. They inclined to the former opinion on account of the long period during which the child suffered from mental disturbance, a long time after the cessation of all salicylic medication.

M. COMBY observed that similar mental conditions occurred after typhoid and other infectious fevers, in subjects of neurotic disposition.

M. GUINON said that the disturbance provoked in children by salicylate of soda resembled that of diabetic coma and acetonæmia, in the dyspnoea, coma, acid-smelling urine and breath. He quoted two cases, however, where there had been delirium and hallucinations.

**On the Permeability of the Meninges to Salicylate of Soda.**—MM. MARFAN and LAGANE had made investigations on 12 cases, of whom 11 were children between the ages of 4 and 14 years. Two were the subjects of severe acute articular rheumatism, and had taken in the course of 10 and 9 days large doses of salicylate of soda (44 and 28 grm.) ; the others had had smaller doses—1 to 2 grm. *per diem*. Among these last, 3 were attacked with tuberculous meningitis at the onset, the existence of which was shown by histological and bacteriological examination of the cerebro-spinal fluid and afterwards by autopsy ; two had severe chorea without appreciable lymphocytosis in their cerebro-spinal fluid. The 5 others had different ailments, *e.g.* incontinence of urine, epileptiform attacks, Duchenne's paralysis, vomiting with acetonæmia and pleuro-pulmonary congestion. The cerebro-spinal fluids were examined on the second, third and fourth days after the commencement of the treatment and about the eighth or tenth day. In these cases they had noticed the rapid appearance of the reaction characteristic of salicylic acid in the urine and in the pleural fluid, but in none of them in the cerebro-spinal fluid. In the case reported by MM. Nobécourt and Darré there must have been some alteration produced in the meninges by the rheumatism which rendered their cells permeable to the salicylate.

**Multiple Fractures in the Newborn.**—M. SAVARIAUD showed a child, the subject of multiple intra-uterine fractures (a woodcut is given in the 'Bulletin').

**Laryngology in Childhood.**—M. ABRAUD described his instrument for direct laryngoscopy, of which illustrations are given in the 'Bulletin,' and recalled three cases of its use in diffuse papilloma of the cord, syphilis of the larynx, and a foreign body in the larynx.

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**Intra-uterine crying of child** ('*Austral. Med. Journ.*,' 1911, 1, p. 60.—R. H. Fetherston narrates a very rare and remarkable case in which a primipara, aged 25 years, gave birth to a child. The presentation was a breech, and the child began to cry as loudly as a new-born child whilst the head was at the fundus and the foot presenting. The child cried for fully three minutes in this position.

F. R. B. ATKINSON.

**Hæmophilia in the newborn; death from hæmorrhage following vaccination** ('*Bull. d'Obst. de Paris*,' 1911, xiv, p. 272).—**Bonnaire**.—A male infant with no family history of hæmophilia or syphilis was vaccinated on the third day of life. One of the punctures made at 9.30 a.m. began to bleed at once, and after ineffectual attempts to control the hæmorrhage death took place at 5 p.m. The necropsy showed both lungs to be filled with infarcts. The other organs showed no macroscopic lesions.

J. D. ROLLESTON.

**Fatal hæmorrhage in the newborn from a small frontal wound** ('*Bull. d'Obst. de Paris*,' 1911, xiv, p. 297).—**Commandeur**.—During delivery a child received a small abrasion from the forceps. The hæmorrhage from the wound was stopped by compression, but broke out again the following day, and continued until death early the next morning. Some hæmorrhage from the umbilicus occurred shortly before death. At the necropsy a large hæmatoma was found in the scalp, and a subpleural hæmatoma at the base of the right lung. It was an open question whether the condition was due to hæmophilia or to some infection, the mother having a raised temperature during the first three days of the puerperium. There was no evidence of syphilis.

J. D. ROLLESTON.

**Hæmorrhage from the stomach in the newly born** ('*Austral. Med. Gaz.*,' 1911, xxx, p. 514).—**M. D. Nesbitt** narrates a case in which thirty hours after delivery the child vomited bright blood on two occasions, and at intervals afterwards dark brown matter. The hæmatemesis ceased after the third day, and the child recovered.

F. R. B. ATKINSON.

**Melæna neonatorum** ('*Thèses de Paris*,' 1911-12, No. 69).—**P. Vidal** distinguishes a melæna spuria due to swallowed blood, usually from cracked nipples, and melæna vera due to hæmorrhage within the alimentary canal. The cause of melæna vera may be syphilis, hæmophilia, or infection by any of the following microbes: *Streptococcus*, *B. coli*, *B. pyocyaneus*, Gaertner's bacillus, pneumococcus, *B. lactis aërogenes*. Melæna vera is usually preceded by hæmatemesis, and is often associated with other hæmorrhages, especially from the umbilicus. The prognosis in melæna spuria is uniformly good, but is very grave in melæna vera. Injections of gelatin or normal saline are recommended for treatment. Twelve illustrative cases are recorded.

J. D. ROLLESTON.

**Vaginal hæmorrhage in the newborn** ('*Cleveland Med. Journ.*,' 1911, x, p. 689).—**L. A. Pomeroy** records a case in a well-developed first-born child, in whom the cord had been ligatured after it had ceased to pulsate. Nothing abnormal was noted until the third day, when the napkin was found stained with blood. The external genitals were normal, but there was slight oozing from beyond the hymen. The hæmorrhage continued the same for three days, and then gradually grew less, entirely ceasing when the child was eight days old. Thirty-two cases of vaginal hæmorrhage in the newborn were collected by Cullingworth in 1876, and Pomeroy has found twenty more, including the present case.

J. D. ROLLESTON.

**Fatal jaundice of the newly born** ('*Austral. Med. Journ.*,' 1911, i, p. 149).—**J. N. Morris** narrates five cases of death in a family of ten children from jaundice; the parents were perfectly healthy. The infants



affected were apparently normal at birth. The jaundice set in within twenty-four hours; the stools were normal, the urine never dark. The onset was marked by gastro-intestinal symptoms, vomiting, loss of appetite, etc. The author finds on looking up the literature that the first-born usually escapes, as in his cases, and that the toxic agent becomes most intense as the parents grow older. Treatment so far has been useless.

F. R. B. ATKINSON.

**Meningeal hæmorrhage in the newly born** (*Thèses de Paris*, 1911-12, No. 71).—**C. J. Montet** records seven cases in which lumbar puncture was used as a diagnostic, prognostic and therapeutic measure. Four recovered and three died. He recommends that 5 c.c. of cerebro-spinal fluid should be withdrawn every two days until the fluid is quite clear.

J. D. ROLLESTON.

**Recovery from tetanus neonatorum** (*Rev. Soc. Méd. Arg.*, 1911, xix, p. 349).—**F. Schweizer**.—A male child, born by easy labour but brought into the world by an ignorant neighbour, on the eighth day of life showed difficulty in suckling, followed shortly afterwards by general contractures, opisthotonos and convulsions. In the course of sixteen days five subcutaneous injections of antitoxic serum were given—100 c.c. in all—accompanied by sodium bromide internally and warm baths. Recovery took place. The case was of a subacute type, as the first injection was not given till the fourth day of disease.

J. D. ROLLESTON.

**Epilepsy in a child five days old** (*Gaz. des Hop.*, 1911, lxxxiv, p. 1339).—**L. Marchand** describes the case of a woman, an imbecile and epileptic, who was delivered of a female child. At birth it appeared normal, but five days afterwards it was seized with a typical epileptic fit: these occurred frequently until the eighth day when death took place. Examination showed diffuse meningo-encephalitis, in the presence of which the author considers that heredity was not sufficient to explain the cause of the disease in the child, and that the meningo-encephalitis was probably the result of toxic products or some infectious agent.

F. R. B. ATKINSON.

**Congenital neoplasm of the spinal theca** (*La Pédiatrie*, 1911, xix, p. 276).—**G. Berghinz** describes this case of lymphosarcoma. A boy, aged 10 days, born of healthy parents, with no history of syphilis, was noticed not to move his legs three days after birth. He weighed 3000 gm.; the face and upper limbs were normal, the lower limbs paralysed, toneless, flaccid, deep reflexes absent, cutaneous present. Sensation appeared to begin about three fingers' breadth below umbilicus. Electrical reaction absent. Anus paralysed, incontinence of urine. Death took place on the twenty-fourth day. Between the eleventh dorsal vertebra and the promontory of the sacrum was a large tumour 4 cm. by 2 cm., soft, adherent to the dura mater, and situated between this and the bone, crushing the spinal cord. It had a gelatinous appearance, and was easily separated from the dura mater while remaining adherent to the vertebral column.

VINCENT DICKINSON.

**Sexual precocity** (*Canada Lancet*, 1911, xlv, p. 171).—**H. T. Machell** records two cases. The first was a girl who started to menstruate at the age of six years and two months. The breasts resembled those of a girl of twelve or fourteen years. The pubes had considerable hair. The vagina

admitted the little finger easily. The uterus was of fair size. The ovaries were not palpable. The second case was a boy who had pubic hair at five months, erections a year later, and emissions at two and a half years. At four years he was independent in manner and self-possessed and his voice was loud and raucous.

J. D. ROLLESTON.

**Precocious maternity; double spina bifida in child** (*Bull. Soc. d'Obst. de Paris*, 1911, xiv, p. 327).—**A. Bonnet-Laborderie**.—A girl, aged 14 years and 1 month, gave birth to a full-time child presenting double spina bifida, one in the cervico-dorsal and the other in the dorso-lumbar region. Death took place from inanition on the fourth day of life. The mother, whose labour had been normal, made an uninterrupted recovery.

J. D. ROLLESTON.

**Three cases of spina bifida** (*Wien. klin. Rundschau*, 1911, xxv, p. 613).—**Josef Simon** describes three cases, two of which were myelo-meningo-celes. (1) A male child, with a lumbo-sacral tumour; the child had also double club foot. He died on the tenth day. Besides the deformities cerebro-spinal meningitis was found post mortem. (2) Female child with a tumour the size of an apple in the lumbo-sacral region. The child was well nourished, and was operated upon when three months old. All went well for some days, but after signs of paralysis in both legs the child died—nine days after operation. (3) Female child, with a swelling of the lower part of sacrum, operated upon when eight days old. The child, like the last, withstood the operation, but died eleven days afterwards. Despite these unfavourable results in the two cases, operation should be advised on all well-nourished children. Operation does save some children from an almost certain painful death a few months later.

M. D. EDER.

**Hereditary cleido-cranial dysostosis** (*Paris méd.*, 1910-11, II, p. 556-59).—**Mouchet** records three examples, in a mother and her daughter and son, and gives a general account of the disease. Historically he states that absence—total or partial—of the clavicles had been noted as a rare abnormality by many anatomists in the past, but that the association with the cranial defect was first pointed out by P. Marie; he has therefore overlooked Sir T. Barlow's description of this association as far back as 1883 (*Brit. Med. Journ.*, 1883, I, p. 909). To the three recognised features of the condition, namely, partial or complete aplasia of the clavicles, the cranial malformation, and the hereditary character, he adds anomalies of the teeth which are almost constant. The first dentition is delayed and often persists to the twelfth year; some teeth, especially the upper incisors, are absent. Caries appears early and progresses rapidly, and the teeth are small, irregular, and badly embedded. The vault of the palate is nearly always high, and is sometimes cleft in the median line. Incomplete forms may occur. Although the deformity is seldom seen in more than two generations, it is usually more fully developed in the second than in the first generation.

H. D. ROLLESTON.

**Osteogenesis imperfecta** (*Nederland. Tijds. v. Geneesk.*, 1911, II, p. 794).—**J. S. van Henkelom** and **D. J. Kamberg** record a case in a newborn male infant, whose parents were healthy and had five other healthy children. The limbs were short in relation to the trunk, and showed deep symmetrical folds in the skin, on the upper arms, 2 cm. below the shoulder-joint, on the

forearms 2 cm. above the wrists, and in the lower limbs 2 cm. below the groins and above the ankles. There was slight œdema of the feet; crepitus was felt in both humeri radii and femora. The child weighed 5 lb., and was 1½ ft. long. The skull was flattened posteriorly, and the cranium felt very soft. Death took place suddenly two days after admission to hospital. A partial necropsy was made. The subcutaneous tissue and muscles at the site of the skin-folds were infiltrated with blood. The diaphyses were short and slender compared with the epiphyses, especially in the case of the humerus, and were three quarters of the normal length. There was an intra-capsular fracture of the humerus, and fractures of the ulna and radius above their distal epiphyses. The diaphysis of the femur was broken in its upper part. The two chief phenomena of osteogenesis imperfecta, so named by Vrolik in 1849, are the slight degree of ossification of the cranium and extreme brittleness of the bones, both those formed in cartilage and in membrane. No changes were found in the internal organs. The prognosis is unfavourable. Most of the children were born dead or died in the first weeks of life, but von Recklinghausen's case was nearly two years old when it died, and cases described by Hochsinger and by Fowler were still alive at three years.

J. D. ROLLESTON.

**Facial hemiatrophy** (*Berlin. klin. Woch.*, 1911, XLVIII, p. 550).—**Stier** showed a case of hemiatrophy of the right half of the face in a left-handed girl, aged 11 years. The affection is twice as frequent on the left as on the right side of the face. When it is associated with hypertrophy of other parts as unilateral mammary hypertrophy it is more frequent in right-handed people on the right side, and in left-handed people on the left, but if associated with disturbances dependent on arrested development, it is most frequent on the left side in right-handed people and *vice versa*.

F. R. B. ATKINSON.

**Facial hemiatrophy** (*Journ. Nerv. and Ment. Dis.*, 1911, XXXVIII, p. 152).—**G. A. Moleen**, who thinks that this disease occurs not infrequently in children, records a case in a boy, aged 10 years, who had had infantile paralysis at two years. When four years old he fell and struck the left side of his face. The wound took two months to heal, and six months later the left side of the face was noticed to be less prominent than the right. The frequency of a history of trauma in facial hemiatrophy suggests that injury to the bones of the face about the spheno-maxillary fissure may involve Meckel's and the otic ganglion or other connections of the sympathetic with the trigeminal.

J. D. ROLLESTON.

**Arrested mental development with congenital absence of both thumbs** (*New York Med. Journ.*, 1911, I, p. 494).—**A. Gordon** records the case of a girl, who at 16 years old was mentally a child. She could not solve the simplest sums, but was deceitful and displayed abnormal moral and sexual tendencies. She heard badly, although her auditory apparatus was normal, and had scotomata, without defect in visual organs. She stuttered, and had a high arched palate, poor dentition, very small ears, which were cup-like, and a very small head. She had five fingers on each hand, but no thumbs; the third toe on each foot was one third the size of the others. The father was an alcoholic and perhaps syphilitic, since the mother had had several miscarriages. Four other children showed arrested mental development.

FREDERICK LANGMEAD.



**Polyarthrititis deformans in a girl, aged 14 years** (*L'Echo méd. du Nord*, 1911, xv, p. 597).—**Deléarde** and **Fontan** speak of the difficulty of elucidating the ætiology of this condition, and quote the case of a girl, aged 14 years, who since the age of six had been confined to bed. All the joints were deformed, immobile and painful. She had, at the age of three, suffered from rubella, followed by an empyema which was opened and drained and well healed. When six years old she began with pain in the left hip followed by pain in the fingers and then other joints. After nine months had passed all her joints had become immobile. The muscles wasted, but the general health remained good. The cause of the condition was discussed, and the radiographs showed it to be "tubercular rheumatism," in spite of the skin reaction being negative to tuberculin. [This condition, which appears to be what in this country is called "rheumatoid arthritis," Deléarde considers to be due to tubercular toxins.—J. P. P.] J. PORTER PARKINSON.

**Acute rheumatism among children: an inquiry into the prevalence of acute rheumatism and its consequences among children of school age** (*Lancet*, 1911, II, p. 1133).—**F. Langmead** records the results of a systematic examination of 2556 children attending the London County Council Elementary Schools. Each child was stripped to the waist and the heart was examined by the ordinary clinical methods. Where any suspicion of previous rheumatic infection arose, the parent was questioned as to previous ill-health, and previous or existing rheumatism in other members of the family. Children were only considered rheumatic if they showed definite evidence of rheumatism or its effects, or if the condition found suggested rheumatism, and further inquiry from the parent afforded strong enough collateral evidence to remove all reasonable doubt. Approximately equal numbers of boys and girls were examined. Fifty-nine boys and 74 girls could be classed as definitely rheumatic, giving a percentage incidence of 5.20 for children of all ages attending school, or 6.83 for children in the senior departments, *i. e.* from six and a half to fourteen years of age. The proportion of rheumatic children gradually increased as they grew older, being .60 per cent. at four years of age, and 8.94 per cent. at thirteen. In most cases the condition of the heart was that which first attracted attention. Out of 133 children classed as rheumatic, 115 showed some sign of cardiac disorder. Rheumatic heart affection occurred in 4.49 per cent. of the children of all ages attending school, or in 5.94 per cent. of those in the senior departments. Obvious valvular disease was found in 2.93 per cent. of children at all ages, or 3.92 per cent. of those in the senior departments. Chorea occurred in 18 cases only, or .70 per cent., of whom twice as many were girls as boys. The incidence of other rheumatic affections was—polysynovitis 1.64 per cent., growing pains 1.37 per cent., and tonsillitis 1.25 per cent. It is pointed out, however, that the percentage of fleeting and consequently easily forgotten forms of rheumatism is probably far below the average, whilst no data of value could be obtained of such rheumatic manifestations as anæmia, which when occurring alone could not be classed as rheumatic. The frequency of tonsils and adenoids in rheumatic children is interesting. An overgrowth of the tonsils or pharyngeal mucosa occurred in 58 cases, or in 43.6 per cent. of the rheumatic children, and this was sufficient to warrant operative interference, in 37, or 27.8 per cent., of the rheumatic cases. The usual percentage of school-children requiring operation for tonsils and adenoids is 7 or 8.

**Some notes on the manifestation of rheumatism in children** (*Austral. Med. Journ.*, 1911, xvi, p. 163).—F. Hobill Cole believes in a status rheumaticus, which includes muscle pains or "growing pains," some forms of tonsillitis, pleuritis, endocarditis, pericarditis, chorea, and erythema multiforme. The prognosis is always grave even in the mildest cases; when once the rheumatic heart is evident, it either ends fatally or else the lesion is nearly always permanent.

F. R. B. ATKINSON.

**Facial phenomenon and convulsions** (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 727).—W. Stoeltzner found in a boy, aged  $1\frac{1}{2}$  years, Chvostek's sign well marked. On tapping the cheek a severe attack, beginning with closure of the glottis and ending in convulsions, occurred. After cessation of the latter there was hardly a trace of the facial phenomenon. He concludes from this that Chvostek's sign can be suppressed transitorily by an attack of convulsions.

F. R. B. ATKINSON.

**Tetany and the spasmophile tendency in infancy and childhood** (*Med. Record*, 1911, ii, p. 559).—H. Koplik would divide all children into two classes: (1) Those who have never had convulsions, spasms or spasmodic affections, and who are not likely to have them under the most trying circumstances. (2) A large class of infants and children who, though they may never have had convulsions or spasmodic affections, may at any moment exhibit them if the inciting agent becomes apparent. Such are the tetanoid infants of Escherich or the spasmophiles of Heubner and his school. Von Pirquet found that fully 56 per cent. of all children came under this class. Often such infants are born of neurotic parents; they are nervous, excitable and pasty. Rickets, cranio-tabes, and in older children "a lymphatic tendency," are often present. The majority are artificially fed. The least variation in food or daily routine produces disturbance. They are likely to suddenly become veritable tetanoid infants. Laryngo-spasm, with a variety of apnoea, is usually the first symptom, which at any time may be complicated by convulsions or sudden death due to spasm of the diaphragm and stopping of cardiac action (*Herztod*). The convulsions are peculiar in that they start suddenly with suspension of respiration and slowing of the heart. Breathing is resumed in a shallow manner, and not by deep inspiration as is usual in other cases. The next stage is marked by the appearance of muscular spasm, the so-called carpo-pedal spasm or tetany. In an attack of tetany the sensorium may be affected; the face has an anxious look, which may be replaced by that of vacant idiocy; the eyes may have a fixed, vacant stare. The author records eighty-two cases of children, of whom twenty-six suffered from "frank" tetany, and the remainder were "spasmophiles or tetanoid." Seven of the spasmophilia infants showed at the same time congenital laryngeal stridor, a condition considered by some to originate in neurosis. Pyloric spasm and stenosis is another accompaniment. It occurred also in the subjects of Little's disease, some forms of idiocy, as Mongolian and amaurotic idiocy, and in hydrocephaly, in neurasthenic and hysterical children, and in spasmus nutans. Of twenty-five definite tetany cases, fifteen were bottle-fed. It occurred chiefly from the sixth to the twelfth month, during which period sixteen cases were noted; below the sixth month there were seven cases, and above the twelfth, two cases. Three were suddenly fatal. He lays stress on the value of the electrical reactions in the diagnosis of the condition. In these serious cases with mental apathy and pseudo-blindness the diagnosis from meningitis is especially difficult. The separation of these cases from examples of true

epilepsy is important, for they account for some of the cases of convulsions where no fits occur in later life. Spasmophilia and true epilepsy is only an accidental combination. He favours the view held by Escherich and his school that the condition is analogous to operative tetany, and is due to ablation or inefficiency of the parathyroid glands.

FREDERICK LANGMEAD.

**Examination of the stomach in tetany in children** (*Monatsschr. f. Kinderheilk.*, 1911, x, p. 429).—**O. Thorspecken** describes six cases of tetany, four in sucklings, two of which ended fatally, one in a child of two, and one fatal case in a girl of seven years of age. In none of these cases was there any sign of acute dilatation of the stomach clinically or by the Röntgen rays. The author does not believe there is any connection between atony of the stomach and tetany.

F. R. B. ATKINSON.

**Spasmophilia diathesis** (*Med. Times*, 1911, xxxix, p. 138).—**Blaunce** states that spasmophilia is by no means a rare disease. It is very frequently latent, and the symptoms may only be evident under some special excitant, such as an infectious fever. The condition almost invariably occurs in artificially fed infants from three months to three years of age, who may appear to be physically healthy or show evidence of rickets or marasmus. The usual signs are convulsions, stridulous breathing, and a partial or general tetany, Chvostek's sign, contracture of the orbicularis palpebrarum on tapping the facial nerve, and Trousseau's sign, the production of tetany on constricting the arm above the cubital fossa, are also present, and the diagnosis can be clenched by the presence of galvanic irritability as shown by the K. O. C. Artificial feeding seems to be the main ætiological factor, for the rarity with which the condition occurs in breast-fed children would seem to indicate that there must be something in or about cow's milk responsible for this symptom-complex. Hereditary nervous predisposition also seems to play a part. The condition is readily amenable to treatment, and the child must be put on a milk-free diet until all the symptoms have disappeared. The administration of cod-liver oil and phosphorus is a useful addition.

T. R. WHIPHAM.

**Cerebral tumour, infantile epilepsy with mental troubles** (*Paris méd.*, 1911-12, I, p. 18).—**P. Haushalter** and **P. Hoche**.—A child from birth was subject to convulsions repeated at intervals, and assuming at the age of four the appearance of epilepsy. Then occurred mental excitement; the child could not keep quiet, but was perpetually walking up and down stairs, and seizing everything within its reach. It was ultimately placed in an asylum, and at the age of eleven the first signs of cerebral tumour appeared. These symptoms progressed, and the convulsions disappeared. Death occurred in a year. On autopsy a tumour (glioma) was found in the left hemisphere, and a large cystic cavity in its neighbourhood. The authors consider the tumour was congenital and gave rise to the various symptoms described.

F. R. B. ATKINSON.

**Psychasthenia in a child, aged 2 years, due to coffee-drinking** (*Arch. of Pediat.*, 1910, xxvii, p. 778).—**T. A. Williams** describes the case of a child, who, since the age of three months, was given coffee of the same strength as taken by her mother, and who, at two years, was drinking



three large cups daily. She was poorly nourished and rachitic when seen at this age. The nervous signs first appeared at the age of six months, when she developed the symptom of pica. She had for the last two months acquired the habit of scratching one wrist for the great part of the day, producing a large and persistent sore. For some months she had screamed continuously all day long, although not in physical or mental pain so far as could be ascertained. The author compares the scratching of the wrist to a tic, and the screaming to such a psychical tic as coprolalia.

REGINALD MILLER.

**Resistance to fatigue in children** (*Arch. de méd. des enf.*, 1911, xiv, p. 435).—**Lesage** and **Collin** found that children under two and a half, or exceptionally three years, presented an extraordinary resistance to fatigue, shown by their being able to hold up their arms for a long time without being tired. Thus in twenty-seven normal children aged from two to two and a half years the arms could be held in the same position from thirty to forty-five minutes. This absence of fatigue is due to an incomplete development of the nervous system, and is associated with other phenomena due to the same cause, such as Babinski's sign and retardation of sensibility to painful impressions.

J. D. ROLLESTON.

### School Hygiene.

**The Sheffield open-air school** (*Brit. Journ. Tuberculosis*, 1911, v, p. 204).—**Ralph P. Williams** gives an account of the progress of the open-air school campaign in Sheffield. The school was ordinarily visited twice weekly by one of the school nurses, although a considerable number of extra visits were paid when detailed medical examinations were in progress, especially during the opening and closing weeks. The cleansing scheme was thoroughly carried out, and home visits paid, advice being given to the parents when necessary. On admission the children's teeth are examined by a dental surgeon, and in most cases suitable treatment is applied. All meals were served in an open-air shed. With regard to personal hygiene, each child was provided with the following articles, which were numbered: washable bag, containing brush and comb, tooth-brush, hand-towel, bath towel, other numbered articles being a deck chair and foot-rest, blanket, and rain cape. The cleansing of the teeth was carried out daily. Special attention was given this year to physical exercises, and the good results which have been obtained in regard to increased chest capacity are no doubt largely due to the thorough way in which these exercises were taught. A satisfactory increase in weight occurred. An increase of chest measurements was noted in all the children, this beneficial increase in breathing power being largely due to physical exercises and increased nutrition. In conclusion it may be pointed out that the open-air school has an important educational influence on the parents; the necessity of sufficient rest, combined with regular, plain, feeding and an open-air life, being impressed upon them by the success of these methods in the treatment of delicate children.

J. ALLAN.

**Darlington open-air school** (*Brit. Journ. of Tuberculosis*, 1911, v, p. 211).—**F. T. H. Wood** writes of the work at the above school. The commonest conditions qualifying for admission were malnutrition, anæmia,

enlargement of glands in neck, and recent operations for tonsils and adenoids. Only one meal daily—a dinner of two courses—was given. With regard to the day's work, the time-table avoided the formal lessons usually given, and included practical lessons in arithmetic and mensuration geography, nature study, and gardening, while a break of fifteen minutes for play or rest was given morning and afternoon. Particular care was given to the ingrainings of habits of cleanliness. Each child brought a towel, hair-brush and comb and tooth-brush. Special attention was given to breathing exercises and these were given daily. A special feature was the daily shower-bath, which produced excellent results in increased bodily cleanliness, neatness of hair, and general briskness and tone. The results indicated by increase in weight, improvement in general physique and increase of hæmoglobin percentage were good. A gratifying feature was that children examined three months after the school had been closed showed that the improvement had been well maintained. J. ALLAN.

**Open-air school work in Chicago** (*'Brit. Journ. Tuberculosis,'* 1911, v, p. 188).—**Sherman C. Kingsley** describes the initiation and progress of the open-air school at Chicago. The work and routine are much the same as in similar institutions in this country. The following were the principal diagnostic points used in selecting applicants: (1) Family history (63 per cent. of the children came from families in which some member had died from, or was in an advanced state of, tuberculosis); (2) general type of body and state of nutrition; (3) presence or not of fever; (4) existence of cough; (5) dulness or changes in breath-sounds (*râles* were usually found to indicate open tuberculosis); (6) reaction to Von Pirquet's test; (7) absence of tubercle bacilli in sputum or swab from throat. No open tuberculosis case was admitted. A daily shower-bath was given. School lessons were strictly limited and abundant rest was insisted on. Yet most satisfactory progress from an educational standpoint was made, and the improvement in the general health of the children was in every way excellent. J. ALLAN.

**Open-air schools** (*'Paris méd.,'* 1911-12, i, p. 32).—**D. Méry** gives a short description of day and boarding schools in the open air for children suffering from various diseases, especially tuberculosis.

F. R. B. ATKINSON.

**The tuberculous school child: with special reference to open-air schools** (*'Brit. Journ. Tuberculosis,'* 1911, v, p. 195).—**D. M. Taylor** chronicles the experience of the workers at Halifax. He does not believe that pulmonary tuberculosis is very common among school-children, but he strongly urges the importance of the "pre-tuberculous" stage. To wait for definite signs is fatal, and one must often take energetic action on presumptive evidence. An error of diagnosis is here a blessing, and its only result will be to have restored a weakly child to a state of vigour. At Halifax it was found that (1) 1 per cent. of elementary school-children (including absentees) show definite physical signs of pulmonary tuberculosis; (2) 3 per cent. are definitely predisposed—the pre-tuberculous. Diagnosis and symptoms, differential diagnosis, ætiology, prophylaxis and treatment are then briefly discussed. A most important source of infection in children is from direct association with persons suffering from pulmonary tuberculosis. The principles of the open-air school are (1) Abundant

fresh air—large mansion with extensive grounds for open-air classes; (2) plentiful supply of good food—three good meals a day; (3) one spray bath weekly; (4) practical methods of instruction—most lessons evolving naturally from daily routine; (5) individual care by small classes; (6) comradeship. The general physical results were good, as are indicated by the following numbers: Average increase of height, 1.1 in.; average increase of weight 3 lb. 3 oz.; average increase of hæmoglobin 10 per cent. The disadvantage (which indicates the limitation of the open-air school work at the present time) is that the children have to return at night to their homes with the infected and insanitary environment, and at the close of the session children insufficiently cured are returned to the ordinary school.

J. ALLAN.

**The prevention of deafness in school-children** (*Journ. de méd. de Paris*, 1911, xxxi, p. 754).—**Jacques** writes a paper which is a sign of the times, and with which we are strongly in agreement. He advocates the examination, physical and functional, of the organs of hearing and of the upper air-passages in every child on entering school. By doing so, not only can ear diseases present be adequately, and in more than half the cases, successfully treated, but those potential can be prevented. Moreover in cases where deafness has already reached a stage when little can be done for it, proper pedagogic treatment can be indicated. Jacques insists upon the importance to the child's career and social future that prophylaxis of deafness should not only be indicated, but carried out, and in the presence of the ignorance and indifference of individuals, he says—"l'État, tuteur naturel et protecteur des déshérités, doit prendre l'initiative de ces mesures que seul il a le pouvoir d'imposer."

MACLEOD YEARSLEY.

**The problem of the verminous scholar** (*Journ. Roy. Instit. Public Health*, 1911, xix, p. 407).—**M. Macdonald** remarks that the problem of the verminous scholar is theoretically easy to deal with, but in practice its solution is most difficult. Medical inspection is, however, assisting in diminishing the numbers of such children. He suggests that measures should be (1) preventive, and (2) curative. Amongst the former he would place first cropping of the hair both in boys and girls. If girls must wear their hair long, then the hair should be tied in a "pig-tail" behind, and not allowed to hang loose, and parents should be advised to see that the hair is combed each night, and the head washed once a week with soft soap. Teachers and parents ought to be encouraged to allow children to attend school bare-headed, or if they wear hats coming to, or going from school, the teachers ought to try to get them to go without hats during the play hours at school. Each child should have its own peg in the cloak-room. There should be frequent inspections, by the school nurse, and following these inspections short lessons on the importance of keeping the head clean, especially to the older girls, might be given by the teacher or school nurse. Probably the hygienic education of the children, who may reasonably be expected to practise in after life some of the hygienic truths taught them in school, is the best solution of the problem. School baths provided more especially for promoting the general cleanliness of the scholars should prove an important adjunct in preventing verminous conditions. With regard to curative measures the author places foremost isolation—in slight cases by making the child sit apart from its companions, in bad cases by excluding the child from school until the condition has been remedied.



As soon as possible the parent should be notified. This is best done by a visit from the school nurse. If parents fail to take steps to treat the condition then they should be threatened with legal proceedings, and if necessary they should be prosecuted. There are two ways of treating the children affected. They may either be treated at home or at a central cleansing station. The latter only is likely to be effective with the children of the poorer classes. For obvious reasons the homes ought to be disinfected at the same time.

J. ALLAN.

**The teaching of eugenics in schools and colleges** (*Journ. Roy. Instit. of Public Health*, 1911, xix, p. 385).—**R. Murray Leslie** argues strongly in favour of eugenic teaching for boys and girls, who would then be much less likely to grow up with false or perverted ideas of sex matters. He briefly discusses the four following questions: (1) Should there be preliminary teaching at home? (2) When (at what age) should sex and eugenic teaching be given in schools? (3) What form should such instruction take? (4) How should such instruction be given? He gives the following general principles for guidance in regard to the teaching of eugenics: (1) All teaching must be authoritative and given by qualified instructors of the same sex. Vague amateurish teaching is not only useless, but may be positively dangerous. (2) Teaching should be given on a basis of perfect frankness. (3) The subject should be treated as both a serious and sacred matter. (4) Nature study of plant and animal life is the best introduction to the subject, followed by studies in physiology and personal hygiene. (5) The teaching is best given in small classes, supplemented by incidental and confidential talks with individual pupils as occasion arises. Confidence between teacher and pupil is to be encouraged in every way possible. (6) The teaching should as far as possible have due regard to the age, temperament, and home environment of the pupil. (7) The personality of the teacher is every whit as important as his or her technical knowledge of the subject. (8) There should be encouragement of intellectual, emotional and social interests outside school work. This may be partly achieved by fostering a taste for the best in literature, art, music or science. (9) In Great Britain there is a widespread conviction among both men and women teachers of the paramount influence of religion, and of scripture lessons, which have the power to inspire a high moral ideal and to touch the spring of conduct. (10) Co-education in this country, though still on its trial, is regarded by not a few as the solution of the problem, and the best means of developing all that is most valuable from the eugenic standpoint.

J. ALLAN.

**The need of some correlation between infant mortality work, school medical inspection, and the teaching of hygiene in schools** (*Journ. of the Royal Instit. of Public Health*, 1911, xix, p. 399).—**Prudence E. Gaffikin** in an interesting paper deals with the above. She argues that it is a pitiable waste of time and makes school work practically useless if we only begin our care of the children at school age; and she asserts that half to two thirds of the imperfections found in school-children are directly or indirectly caused or aggravated by want of care, or want of knowledge, on the part of the parents during pregnancy, infancy and early childhood. Hyperlactation has a marked degenerating effect not only on the individual child but also on future children. It might even be said artificial feeding is better than hyperlactation; the former would only

injure the child fed. Several illustrative cases are given in support of the above statements. Again, the effect of this exhausting maternal strain on the nervous system of the younger children is quite appreciable. She found the proportion of cases of night terrors was exactly the same in the older or younger members of a family, but the graver nerve troubles—mental deficiency, fits, *petit mal*, the rheumatism that is a developmental neurosis, and chorea—occurred markedly more frequently in the children belonging to the younger half of the family, unless in cases of such pronounced bad heredity that nervous derangement was a foregone conclusion. With regard to children of school age and more especially those who are about to leave school there is need for teaching hygiene—personal and social—and for well-considered eugenic teaching. These subjects should be included in the curriculum of continuation classes. But it is not much use having taught a girl the care of her body and the care of her baby if she is reduced in the early years of married life to suckling her child the longest possible time in sheer self-defence, her physique, her nerve force, not being equal to the strain of continual pregnancies and the care of small children, probably with inadequate food, and in insufficient cubic space. The boy must equally be taught, and must grasp, that such conditions are bad for the State, for the children, for the mother, and indirectly for himself. J. ALLAN.

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## Reviews.

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PRÉCIS DE MÉDECINE INFANTILE. By Dr. P. NOBÉCOURT. Second Edition. Paris: Masson et C<sup>ie</sup>, 1912. Price 14 fr.

IN the nine hundred pages of text which this book contains there is amassed a vast amount of information, some of which, considering the scope of the work, might perhaps with advantage have been omitted. The title is a 'Précis de médecine infantile,' but in reality the book is rather a treatise on medicine, dealing with the occurrence of disease in childhood; in other words, it treats the subject more from the point of view of the general physician than from that of the pædiatrist. The author, instead of describing the essential maladies of children, seems to have taken infinite pains to discover how many varieties of disease can occur in childhood. The two things are not quite synonymous, and it is for this reason that we say that the book might well have been curtailed. Detailed descriptions of diseases which are by no means confined to children, and do not differ essentially when they occur at different ages, might well have been omitted, as they are to be found in the general text-books on medicine, or, at all events, a brief description of them would have sufficed. Nevertheless the book is a valuable addition to the literature of the subject on account both of its accuracy and of its detail. It is thoroughly up-to-date, and will prove a useful work of reference, though the absence of a detailed index seriously militates against its general utility. A table of contents in a large book like this does not take the place of an index, and consequently reference to any point is apt to involve both time and trouble.

The arrangements of subjects is strictly according to systems. Thus we find mumps under "Salivary Glands," and diphtheria, pneumonia and

whooping-cough among the disorders of the respiratory system. On the other hand, chronic articular rheumatism and diabetes mellitus seem rather out of place under "Disorders of Nutrition." The standard of the various sections is very uniform; thus it is difficult to accord special praise to any particular one. Some of the chapters, however, owing to the multiplicity of the clinical forms and varieties of the diseases described, are somewhat bewildering in their complexity.

To turn to more detailed criticism in a work which abounds in such a wealth of detail as this, we should have expected to find a more adequate account than that given of lymphadenoma, which receives scarcely more than a passing reference under the heading "Aleukæmic lymphadenitis," and some description of what is essentially a disorder of childhood—habit-spasm—of which we could discover no mention. Objection must also be taken to secondary infectious arthritis being included under the name "Rheumatism." Where an author is so precise as Dr. Nobécourt it is surely advisable to restrict the term "rheumatism" to its actual manifestations, and not to make it generic for all forms of arthritis. In vain, too, we looked for some account of Still's disease (the so-called osteo-arthritis of children), and further, found no mention under amaurotic family idiocy of the cherry-red spot in the region of the macula lutea which is so characteristic of the condition.

Infantile paralysis and the epidemic form of the disease are dealt with as two separate entities, though the author is evidently in doubt as to the advisability of so doing. The analogy, which he quotes, that there are forms of cerebro-spinal meningitis which are due to various organisms, and an epidemic form caused by the meningococcus, does not lend much weight to such a proceeding. In the same chapter acute encephalitis receives but a bare mention, though it deserves some description.

It is interesting to note that the author favours medical treatment in cases of hypertrophic stenosis of the pylorus. He says: "If these fail, and only then, should recourse be made to surgical interference."

At the end of the book there is a "Mémento thérapeutique" of the various drugs and remedies mentioned in the text, and two coloured plates, one representing the changes in the long bones which occur in rickets, congenital myxœdema and inherited syphilis, and the other the rashes of scarlet fever, measles and chickenpox, the first being perhaps the more satisfactory of the two. Besides charts and diagrams there are several illustrations throughout the text, serving to depict the conditions described. These, for the most part, are good but many of them seem to have been taken from other sources.

T. R. W.

DE L'INCONTINENCE D'URINE CHEZ LES ENFANTS ET EN PARTICULIER DE L'INCONTINENCE NOCTURNE DITE ESSENTIELLE. Par le Dr. DENIS COURTADE. Paris: Masson et C<sup>ie</sup>, Editeurs. Pp. 38. Price 1 fr. 25 c.

THIS brochure contains a detailed account of incontinence of urine in childhood. The author recognises four forms of the disorder, according as it is due (1) to disease of the nervous system, (2) to malformation, (3) to affections of the genito-urinary tract, or is (4) essential or idiopathic in nature. It is to a consideration of the last of these that he chiefly devotes himself, and he describes two varieties: (a) The atonic, which results from a lack of tone in the external sphincter, combined, probably, with some defect in the nervous reflex mechanism; (b) the irritable, in which there is an



exaggerated sensitiveness of the bladder. These two varieties may exist in combination, and the author describes in detail the symptoms and diagnostic features of each and enters fully into their treatment. He considers that belladonna is only of use in the irritable variety, while strychnine is indicated where there is want of tone. He regards treatment by electricity as the most rational means when the sphincter is defective, and gives a detailed description of the technique of its application, although the methods described are hardly applicable in general practice. He claims to have effected a complete cure in 55 per cent. of his cases by this means. As a rule from ten to fifteen applications are necessary. R. H.

THE DISEASES OF INFANCY AND CHILDHOOD. By L. EMMETT HOLT, M.D., Sc.D., LL.D., assisted by JOHN HOWLAND, A.B., M.D. Sixth edition. New York and London: D. Appleton & Co., 1911. Price 25s. net.

THIS standard text-book, which first appeared in 1897, and has now reached its sixth edition, is too well known to require detailed notice. It suffices to draw attention to the changes in the new edition. Many articles have been entirely re-written, and several new ones appear for the first time. The greater part of the new material will be found in the chapters on nutrition and infant feeding, infant mortality, intestinal intoxication, pyloric stenosis, appendicitis, acute peritonitis, endocarditis and pericarditis, cerebro-spinal and other forms of acute meningitis, acute poliomyelitis, hereditary syphilis and tuberculosis. Many of the old illustrations have been omitted, and twenty-six new ones have been added, including twelve skiagrams. The value of the book as a work of reference is enhanced by the possession of an excellent index. J. D. R.

LA SCARLATINE. By Dr. A. LESAGE, Médecin de l'Hôpital Hérold. Paris: Masson et C<sup>ie</sup>, 1911. Price, paper 2 fr. 50 c.; bound 3 francs. Pp. 158.

RECENT work on scarlet fever has been admirably summarised in this compact little volume. After an historical introduction, in which he shows how the modern idea of scarlet fever as a bucco-pharyngeal affection in which the eruption and desquamation are accessory has gradually become evolved, the author discusses the clinical aspects of the disease. Pure or uncomplicated scarlet fever is distinguished from scarlet fever with complications. In dealing with the former Dr. Lesage describes in detail the characters of the tongue and throat, digestive disturbances, toxic eruptions and desquamation. In the section on complicated scarlet fever he dwells on the early complications which involve the nose, throat, and suprarenals, and the numerous late complications of the second and third week, special attention being given to albuminuria. By individual isolation such as is practised at the Hôpital Hérold during the first three weeks of the disease the author thinks that complications can be prevented. In the chapter on treatment, red light treatment is advocated as having a favourable effect on the eruption and the bucco-pharyngeal symptoms and systematic syringing of the throat is deprecated. Since he has abandoned this practice Dr. Lesage has very rarely met with otitis. J. D. R.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

MARCH, 1912.

No. 99.

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**Original Articles.**

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SYPHILITIC AFFECTIONS OF BONES MET WITH IN  
CHILDHOOD.\*

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MR. PRESIDENT AND GENTLEMEN,—I have to speak to you to-night of a disease which is only too familiar to all of us, namely, syphilis, and will endeavour to give some account of the ravages committed by this disease and of the different forms it assumes in the bony tissues of the young.

At first sight it would appear inappropriate were I to dilate on the terms "hereditary" or "congenital" and "acquired" syphilis, as they are so familiar to you all, but I feel that I must do so if I am to approach the subject in anything like order. I will say at once, therefore, that these terms, though honoured by use and consecrated by time, are the cumbersome and misleading inheritance of a by-gone generation. Hereditary or congenital syphilis is a meaningless term. All syphilis is acquired. Some acquire it before birth, some during birth, some soon after birth and some in adult life. Syphilis is the same whatever the age be at which it is acquired. If there is a difference between the results of the disease in early and in

\* A paper read before the Harveian Society of London, November the 23rd, 1911.

adult life—and we must all admit there is—where does it lie? The answer is, it lies in the different reaction produced in young and growing tissues on the one hand and in mature well-formed tissues on the other. The only significance that the terms possess is the superfluous suggestion that the child is congenitally young and the adult is of a certain age.

In the adult form the disease can be roughly graded into its three stages owing to the resistance of the tissues; in infancy and childhood the tissues have little resistance to offer, and the disease riots unchecked among them; there is a stage of incubation and after that a jumble of symptoms presents, in which the macular rash and the gumma may be seen at the same time, and the condyloma may disclose the true nature of a bone lesion. This, then, is the reason why many ideas which are gleaned from the study of this disease in adults require careful revision when we come to the diagnosis and treatment of the same disease in children.

Now the most important and durable lesions are those which are met with in the harder structures, namely, the bones and the cartilages, of which the bones at this age largely consist. As they are the most durable structures so also do they show the most constant gradations in their resistance to the disease; in consequence we find that certain manifestations are common at one age and are never seen at another.

If you recall the tuberculous infections of bones you will easily recollect that the majority of them start in the cancellous portions near their extremities in the region of the epiphyses, hence the frequency of joint infections. Syphilis, on the other hand, has a marked partiality for the shaft and ignores the epiphysis almost entirely. A syphilitic joint disease starts in the synovial membrane and therefore is not a true bony lesion, and I shall make no further reference to it. The lesions I intend to deal with are as follows: (1) Epiphysitis (perichondritis); (2) dactylitis; (3) periostitis—(a) local, (b) general; (4) osteomyelitis (gumma).

*Syphilitic epiphysitis* from its name seems to be in direct opposition to what I have just said about the epiphysis being ignored, but I only use the term because it is generally employed; the true name of the condition should be "syphilitic perichondritis." The perichondrium or periosteum is affected along the whole length of the bone; it is thickened, and large clear areas may appear in the more osseous portions of the bone as if these had been re-converted into cartilage.

These changes are well seen in the X-ray photographs kindly



lent me by Dr. Hugh Thursfield and Mr. O. L. Addison, to both of whom belongs the credit of recognising the true nature of the lesion which has for so long been called an epiphysitis (Fig. 1). The symptoms are congregated round the joint because it is there that the muscles are inserted into and drag on the perichondrium



FIG. 1.

when movements occur; hence the œdema and thickening are most marked at this place and are probably increased by effusion into the joint. The thickening of the shaft, too, is not so easy to appreciate when the bone lies in the centre of the fat limb of a baby as is the thickening of the ends, where usually the bone is nearer the surface as the muscles have largely given place to tendons. Clinically the

baby is noticed to be feverish and fretful and to cry whenever touched; it is difficult to feed as the handling makes it cry. The mother soon notices that the pain is caused by moving a particular limb, usually one of the upper limbs, and this is followed a few days later by tenderness in the opposite limb or in one of the lower limbs. In the last eight cases of which I have the notes at hand the limbs affected were as follows: one arm alone, three cases; both arms, two cases; one arm and one leg, two cases; both arms and both legs, one case. The humerus, radius and ulna are therefore more often affected than the femur, while the tibia and fibula are comparatively seldom attacked. Of the joints which appear to be painful they are, in order of frequency, the elbow, the shoulder, the knee, the wrist and the ankle. I have never satisfied myself that the hip was affected, though Mr. Addison tells me that in one of his worst cases both hips were tender.

The mother notices not only that movement of the limb is painful but also that the child holds the arm in a peculiar way and never attempts to move it. The arm hangs useless at the side as if paralysed, so that the old name of syphilitic pseudo-paralysis is still sometimes applied to the condition—the term has at all events the merit of implying that the whole limb is affected.

In passing from this form of the disease, as it affects bone at an age when it is scarcely more than embryonic and is largely composed of cartilage, it is worth while noting that the cartilages elsewhere are not immune from attack. A perichondritis of the laryngeal cartilages in the early months of life may prove fatal very rapidly from obstruction to respiration if its true nature is not recognised and if its course is left unchecked. The symptoms resemble those of laryngeal diphtheria in everything except that neither membrane nor bacilli can be found.

In syphilitic perichondritis the age is practically always below six months; in the eight cases referred to above the age ranged from four to fourteen weeks. Other signs of the disease are as a rule visible, rashes, snuffles, condylomata, etc., while the family history of miscarriages is a great help in diagnosis. A baby under eight months old who is brought to hospital with a motionless and tender limb can safely be said to be suffering from one of three things: syphilitic epiphysitis, trauma, or infantile scurvy. In trauma there is a history of a fall; at this age babies cannot fall without the person who picks them up being aware of the fact. There are the signs of injury, such as bruising, and a fracture if present is readily made out.

In infantile scurvy the child is usually well over six months of age;



FIG. 2.

the feeding is unnatural, it is either neglected in the poor or governed by fads in the rich. The child may be fat, but looks ill



and is pasty, the gums around the erupted teeth are spongy and may bleed, while the skin may show petechiæ. In advanced cases blood has been passed in the urine or by the bowel. The limb affected is usually one of the lower limbs, and the swelling of the shaft from the subperiosteal hæmatoma is very easily appreciated, and feels very like a sarcoma. There is therefore little difficulty in discriminating between these three conditions.

*Syphilitic dactylitis* is a condition which is oftener read about than seen. It is one of the rarer manifestations of the disease, and is seldom brought for treatment, as it causes no pain. It is not developed before the second or third year of life, and is not usually seen as young as this.

When well marked the digits of the hand, including the thumb, become beaded in appearance, thicker round the joints than round the middle of the phalanges. In well-marked cases this gives the terminal phalanx a singularly triangular shape. The majority of the interphalangeal joints of both hands are affected. X rays show slight thickening of the adjacent parts of the phalanges, but chiefly on the proximal side of the joint, where a distinct shoulder develops. At these points, too, some rarefaction seems to take place as the shadow becomes less pronounced (Fig. 2). I have never seen the toes affected, nor any of the metacarpal or metatarsal bones involved. The bones never break down nor discharge. In tubercular dactylitis it is the middle of the phalanges which is expanded and becomes thicker than the joints. Commonly one, two, or perhaps three bones are affected, seldom more than four or five. The feet are almost as susceptible as the hands, and the metacarpals and metatarsals are frequently attacked. Tubercle is much the more acute, and rapidly becomes painful; caseation and necrosis is the rule, leaving a deformed and crippled digit. It is rarely seen after the first three years of life. There should therefore be very little difficulty in discriminating between the two forms of dactylitis.

*Periostitis* is the commonest manifestation of this disease in bones. It may be a local or a generalised condition.

(a) In the local form the thickening is confined to a small area of the bone, so that, if the swelling is in a position where it can be felt, it is called a syphilitic node (*vide* Fig. 3). Localised periostitis is seldom seen before the age of four years; indeed, the age of six years is associated in my own mind with the time at which one usually sees it. I think we may take it as certain that some local injury starts a slight periostitis in which the disease settles and keeps up its activity. This accounts for the fact that the node nearly always

forms on the subcutaneous surface of the upper part of the tibia, the



FIG. 3.

place where bruises usually occur in falls. Sometimes the subcutaneous surface of the ulna produces a node for the same reason.

These nodes are not acutely painful, but are tender when firmly pressed upon or knocked. The thickening shades away gradually



FIG. 4.

into the neighbouring bone, and has no abrupt edge. In nearly all cases, too, it is confined to one side of the bone, and does not surround it like a sarcoma. X rays show the new bone laid down evenly in



layers under the periosteum and elsewhere the bone is normal. In old-standing cases the bone laid down becomes very dense, casting a dark shadow on the plate; but in the early stages it is easily penetrated by the rays, and in the diffuse cases gives an irregular and woolly outline to the bone. As a rule the node is single, but additional evidence should be sought for by an examination of the other long bones, the teeth of the second dentition, and the eyes, both the cornea and the iris. The older the child is when seen, the greater the chance of confirmatory evidence being obtained. In some cases, however, the node may be the only indication—it should be sufficient.

(b) The generalised or diffuse periostitis spreads over the whole shaft of the bone, but very seldom encroaches on the epiphysial portion (*vide* Fig. 4). It is a more severe lesion than is the production of a node, and appears on the average at a rather later period of life; nor is it so easy to connect it directly with injury as in the case of the local condition, but occasionally this can be done. I saw one boy in whom, at the age of four years, a general syphilitic periostitis of the humerus followed an attack of erysipelas of the arm. The frequency too with which the tibia is affected is very suggestive of injury. In some neglected cases doubtless a periostitis which was at first local may, if untreated, tend to become diffuse. Sometimes one tibia is affected, sometimes both. Occasionally both upper and lower limb bones are thickened, and, when working with Mr. Pardoe, I saw a girl of twelve in whom all the long bones of both upper and lower limbs were attacked.

The bones are not painful to handle, nor do they incommode the child except at night, when they give rise to a vague uneasy feeling which prompts the child to kick off the bedclothes and lie with the legs exposed to the cool air. Occasionally these osteocopic pains trouble the child in the day-time; this was so in the severe case of a girl with all the long bones involved, for she was sent to hospital from school on account of the pains in her legs; the parents had never noticed anything wrong with them.

If one of the bones of the upper limb is affected, or one of the upper and one of the lower limbs at the same time, it is difficult to imagine anything for which this condition can be mistaken. On the other hand, if one or both tibiæ are affected, rickets is sometimes thought to be the cause. In diffuse periostitis of the tibia the bone assumes certain definite characteristics. It becomes bowed forward in a gentle curve, which is better marked in the upper part of the bone, and is compared with the curve of a sabre. The diffuse

periostitis all round the bone obscures the sharp margins, so that the bone becomes circular in section and the anterior and inner margins are blunted, and the comparison to a cucumber is well deserved. Rickets, on the other hand, causes an antero-posterior curve low down in the bone, so that the leg overhangs the ankle, and usually a lateral curve is to be noted at the same point. The bone is compressed laterally, and the sharpness of the anterior margin is accentuated. On transverse section the buttress-like process behind gives the bone a diamond shape.

The age at which the two deformities appear differs greatly, as the antero-posterior curve in rickets develops before the child has learnt to walk. There is a curious feature which is often seen in the generalised form of periostitis, and that is increased growth in the length of the bone due to the excessive vascularity on the shaft side of the epiphysial plate. When the periostitis is symmetrical this is of no moment, but when only one tibia is affected the difference in the length of the limbs may be  $\frac{3}{4}$  in. in my own experience—very likely it often exceeds that limit—so that the sole of the boot has to be raised upon the sound side to equalise the length of the limbs.

In some cases a bone with diffuse periosteal thickening may develop masses of gummatous tissue under the periosteum which become red and tender and eventually break down and discharge; sinuses form, a mixed infection ensues, and the appearance then is not unlike that produced by tubercle. The pathological state of the rest of the bone or of other bones should, however, prevent such a mistake being made.

The last manifestation of this disease I wish to speak of is what may be termed a *sypilitic osteomyelitis*, as in this the whole thickness of the bone is attacked and is replaced more or less completely by gummatous tissue, which may eventually dissolve completely the continuity of the structure without necessarily discharging through the skin (*vide* Fig. 5).

The characteristics of this osteomyelitis differ greatly with the stage in which it is seen. In the early stages it expands the bone in all directions, or to be more strictly accurate it dissolves the interior of the structure while fresh bone is formed beneath the periosteum. The X rays show the soft new bone being formed, while the interior is clear with irregular streaks running through it where the more resistant trabeculae still remain. Sometimes the destruction is so rapid that it seems as if the bony tissue was replaced by a thin-walled cyst. Doubtless this is the explanation of some of the benign cysts which at the operation are found filled with round-cells and



FIG. 5.



are removed from the humerus or other of the long bones of children (practically all such cases are reported as occurring in children).

The destruction of the interior goes on, as a rule, more rapidly than the formation of new bone externally, so that parchment-like crackling is felt, and if the skin is red over the swelling the classical picture of a rapidly growing sarcoma is reproduced, with perhaps this difference, that the margins of the gumma are not quite so well defined as those of the growth. I remember seeing a case in which a girl of about eight years old had a large, tender, red swelling of the upper part of her leg—obviously an enlarged tibia—in whom the picture of sarcoma was still more complete, for she had what looked like a secondary growth on her frontal bone, syphilitic lesions of the flat bones being, in my experience, excessively rare at this age.

Sometimes X rays show no outline of the bone at all, only patchy shadows remaining where small areas of bone still resist demolition. The fibula is perhaps the commonest bone in which to see these changes carried to their extreme extent. From what I have said it will be readily understood that spontaneous fracture may readily occur. I may mention the case of a girl, aged 16 years, who was sent to hospital because she was developing a curious form of talipes valgus. On examination it was found that a part of her fibula had been completely destroyed for a distance of about  $2\frac{1}{2}$  to 3 inches; the gap gave to the fingers a feeling not coarse enough for crepitus, but resembling the feel of a bag of chopped-up hay as the spicules of bone were moved about by the fingers. She had no pain and was quite unaware that anything was wrong with her leg, though worried about the condition of her foot, which was due to the destruction of the peroneal muscles.

There are two other conditions which were thought at one time to be due to syphilitic reaction and are still retained as such in some text-books, although their right to be so regarded is now generally contested; the one is craniotabes and the other is Parrot's nodes.

Craniotabes can be found well marked in nearly all marasmic infants and is due to prolonged malnutrition retarding ossification and actually causing re-absorption of the bone already laid down. It makes no difference whether the marasmic condition is brought about by syphilis or any other cause, and most people nowadays fully recognise this fact. It is a little more difficult to dogmatise on the condition known as Parrot's nodes. It is extremely rare to find them in syphilitic children in whom there is not very unmis-

takable evidence of rickets elsewhere. The nodes are so obviously an exaggeration of the ordinary squareness and bossing of the head which are so characteristic of ordinary rickets that it is difficult to understand the wish to label them as syphilitic. They certainly occur in rickety children, against whom no other suspicion of syphilis can be entertained. Head bossing is better marked in the condition known as hereditary cranio-cleido-dysostosis than in any other and in this the syphilitic factor has no place whatever. It is very probable, then, that in a few years' time both these conditions will have ceased to be classed under syphilis.

*Treatment.*—Here I must confess that I have little new to offer in the way of treatment, as though I have had considerable experience of "606" in adults I have never given it to children, nor with, perhaps, the exception of two cases should I be tempted to do so had I to treat all my cases over again.

In dealing with the so-called acute epiphysitis in children the first thing to do is to put the limb at rest. The limb is swathed with cotton-wool, and, in the case of an arm, the elbow is bent at a right angle and kept fixed in this position by the application of a light splint made of thin cardboard; in the case of the lower limb the knee is treated in the same way. The clothes are put on with the arm kept close to the chest.

Mercury is administered by giving liq. hyd. perchlor.  $\text{mv}$  in a drachm of cod-liver oil, a mixture babies take very readily. At the same time mercury ointment diluted with an equal bulk of lanoline is used for inunction. In babies the skin is too tender for inunction to be carried out in the ordinary way by rubbing, but absorption is so easy that this is not necessary. A piece of ointment about the size of the terminal phalanx of the little finger is smeared over the abdomen and a flannel binder applied. The child is washed every evening and fresh ointment smeared on and the same binder used for a week at a time—if it does not become soiled there is no need to change it. The whole binder becomes impregnated with mercury, and the acts of respiration, the movement of the abdominal muscles, and the ordinary wriggling movements of an infant are sufficient to cause absorption. The effect of treatment in such cases is extremely rapid. The immobility of the arm relieves the child of practically all its pain, and in three or four days when seen again the tenderness, though still present, is much less; in ten days the limb may be liberated and in three weeks nothing is noticeable. The child should, however, continue to have mercury for its first two years of life. It is stated in books that if left untreated the epi-

physis becomes loose and is discharged, the joint becoming disorganised. I have never seen this occur, nor have I ever seen a child in later life with signs of this having occurred, and now with the knowledge that this is not really an epiphysitis I feel rather inclined to doubt the latter part of the statement, though I have known the epiphysis to separate from the shaft. With regard to older children the same lines of treatment may be adopted; my experience is that it is better to give them a good course of mercury by the mouth in cod-liver oil in conjunction, in severe cases, with inunction, and then later to combine the mercury with small doses of potassium iodide. I have never met a case which was intolerant of mercury in any way, and most children react to the drug with marvellous rapidity. I have heard it said that when large doses of mercury are given to small children there is some risk of kidney irritation ensuing if a careful watch is not kept. I have seen this occur in adults where a suicidal dose of corrosive sublimate has been taken, but have had no experience of it in children who are taking medicinal doses; still, it is a thing which should be kept in mind. In the child I have already referred to, who had a syphilitic osteomyelitis of the tibia and a softened gumma on the forehead, the local signs settled down at once, and the gumma on the head, though quite soft when first seen, resolved, without discharging through the skin, so that a month later there was nothing to be seen on the forehead. The activity of the disease in the bones is arrested rapidly, and the bone, if destroyed, begins to re-form, while in the local and diffuse periostitis cases the new bone is partly absorbed, the remainder becoming sclerosed, so that a thick, hard, painless bone remains. In the young the growth of the limb gradually renders this thickening less and less noticeable; where great thickening has already taken place, as in some of the illustrations, permanent deformity of the bone remains throughout life. If one tibia is longer than the other this will need correction by a corresponding amount being added to the sole of the boot of the normal side. The very few cases which do not seem to react readily to the treatment it is well to admit to hospital so that they can have a thorough course of inunction.

If osteocopic pains persist in the tibiæ perhaps "606" would now enable us to relieve them, but the following excellent method of treatment may still be employed. The skin is incised and the thickened periosteum divided and pushed back, a trench in the long axis of the bone is gouged right down to the medulla, the periosteum is then sewn up with catgut and the wound closed. The trench fills



with blood-clot, which is rapidly replaced with new bone, so that with the exception of the scar no evidence of the operation remains. This is a procedure I can thoroughly recommend. The pains disappear at once with the relief of tension. Where profuse periostitis is accompanied with gumma formation and this has been allowed to discharge and a mixed infection is present, the chronic sinuses which result would, I am sure, be benefited by the injection of "606"; these children would in nearly all cases be about ten years old or older. But as yet I have never had occasion to use this drug in children, being satisfied so far with the older methods of treatment.

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## TEN YEARS AS DENTAL SURGEON TO A CHILDREN'S HOSPITAL.

By SAMUEL F. ROSE, L.R.C.P., M.R.C.S., L.D.S.Eng.,  
*Dental Surgeon to Queen's Hospital for Children; Late Dental Surgeon  
 National Dental Hospital.*

DURING the past ten years it has been my privilege to act as Dental Surgeon to the Queen's Hospital for Children (known formerly as the North-Eastern Hospital for Children), the second largest children's hospital in London, situated in the Hackney Road, N.E., in the midst of such districts as Bethnal Green, Shoreditch, Haggerston, Hoxton and Hackney, to the poor of which it is as necessary as their daily bread, besides receiving vast numbers of patients from Bow, Stratford, Walthamstow, Tottenham, and other less adjacent neighbourhoods.

As might be expected in such surroundings, where malnutrition is the rule rather than the exception, and where the ignorance of mothers on infant-feeding and management is simply bewildering, caries in the teeth of the young is peculiarly rampant, and the woeful spectacle often presented by the mouth of a mere baby is pitiable in the extreme.

It is no uncommon sight for the upper temporary incisors and first molars to be decayed level with the gum, and perhaps the seat of abscesses, at the age of two years, or even earlier, all treatment but extraction being hopelessly out of the question.

Again, the first permanent molars, which are cut, generally speaking, at the age of six, are found in children of seven or eight with crowns hollowed out like egg-shells and pulps exposed or dead.

Such extreme cases are seldom encountered in private practice,

and must be distinctly referable to the terrible condition prevailing among slum children. It was the recognition of this appalling state of affairs in many of their patients' mouths that prompted the authorities of the hospital, fourteen years ago, to appoint a dental surgeon, the office to be a salaried one, and his duties to include the conservation as well as the extraction of teeth.

No other children's hospital at that time had made such an appointment, so to this hospital is due the credit of a pioneer in the direction of saving the children's teeth.

Most of the patients seen and treated by the dental surgeon are referred to him from other departments, the physician or surgeon in charge of the case sending the patient on in order that the aid of a clean and healthy mouth may assist other treatment.

Where adenoids and enlarged tonsils require operation, the mouth is always put in order as a preliminary.

There can be no question that routine attention to the mouth is a most important item in the treatment of disease generally, particularly in cases of gastro-intestinal trouble or faulty nutrition.

There need be only two tender teeth, one on each side in the molar region, for the whole masticating apparatus to be thrown out of gear; whatever chewing is then done will take place on the anterior teeth (which are of course quite incapable of successfully performing the work of molars), food will be bolted, and digestion severely hindered.

Further, the avoidance of certain teeth in chewing produces a thick offensive deposit upon and around them, for healthy, vigorous mastication is Nature's method of cleansing, and the only really effective way with children's teeth; the breath becomes foul, and troubles due to the swallowing of septic matter will arise.

The parents of this class seldom bring children for dental attendance unless there is actual toothache, and as many mouths get into a terrible state with little or no complaint on the part of the patient, many constitutions would suffer irreparable injury, and lives no doubt be lost from chronic septic poisoning and its sequelæ, were it not for the routine examination of the mouth to which patients are subjected.

The indifference of parents to their children's badly worn molar teeth that do not happen to be aching at the time is amusing, whereas they usually observe acutely and point out with much anxiety any trifling blemish or crookedness of a new front tooth, which probably calls for no treatment at all.

The first permanent molar erupts unobserved by the parent, or seen is commonly classed as a first tooth, and as such ignored and allowed to decay like the rest, which it very often promptly does.

Another very common error is for the necrosed and protruding end of a deciduous root to be mistaken for a misplaced erupting permanent tooth, and on this assumption the parent is, with difficulty, persuaded to sanction its removal.

Readers will have gathered from the foregoing remarks that a good deal of extraction has to be done for these children, and this is unfortunately the case. However repugnant it may be and whatever views we may hold as to the effect of early extraction on the development of the jaws or the correct placing and articulation of the permanent teeth, we have no alternative in a large percentage of neglected dentitions. Pain must be relieved, sources of sepsis must be removed, abscesses must be cured, crippled mastication remedied, and the mouth made clean and healthy, and in a vast number of cases the only means to this end is extraction.

I find that the average number of teeth extracted per child is about three, and as there are upwards of 900 new patients per annum, it will be seen that the forceps are in pretty constant requisition.

The extraction of bad teeth, besides freeing the body from a source of discomfort and pain, and possibly chronic septic poisoning, has a most beneficial effect in preserving the remaining teeth in a healthy state, as it enables mastication to be carried on with normal vigour, so that the teeth are cleansed and gums rendered healthy, and also by freeing the approximal surfaces of teeth previously in contact with decaying companions prevents decay in those surfaces, or even brings about spontaneous arrest of caries already in progress. A long period of immunity from dental troubles may ensue, the patient rapidly gains weight and strength, and the health generally undergoes a marked change for the better.

Now comes the question, "What teeth should be extracted?" and a few remarks on the general rules I have taken for my guidance in deciding this point may not be out of place.

Firstly, I extract all teeth that are a source of sepsis, and this means all teeth (including roots and fragments) in which the pulp or nerve has died, and the interior of the tooth laid open by decay becomes an incubating chamber for bacteria, which with their products escape into the mouth. Such teeth have deep cavities, not necessarily large, extending into the pulp chamber and filled with a soft mass of decomposing food, *débris* and organisms: often they



are loose or the seat of abscesses, and impart a marked fœtor to the breath. The gum is never healthy around teeth of this character, but congested and spongy. The molars will often be found in this condition with but little to indicate it on casual inspection, the decay being situated in between, and then usually involving both at the point of contact.

Severe toothache in children, even where the pulp of the offending member is not actually dead, generally necessitates extraction, as the operation of pulp devitalisation and root-filling is far too tedious and trying to be a routine hospital method.

With those unversed in dental matters there is a great tendency to condemn teeth solely because they look black and craggy, and patients often arrive in evident expectation of losing several teeth that are in this state, the parents being much surprised when told it is quite unnecessary. The fact is, that however deep the discoloration, dark brown, or even coal black, it is in itself no indication for extraction.

Caries of this type is often of a superficial character, and in a state of natural arrest, which can be demonstrated by its hardness when probed, and such teeth may act as harmless and efficient masticating organs for a very long time.

It behoves us therefore to examine such teeth carefully, to test the discoloured dentine with a sharp probe, to note whether it is hard or soft, and to ascertain whether there is or is not any extension to the pulp chamber before passing sentence. The condition of the gum and presence or absence of toothache will also help us in deciding.

The point to remember is that it is the implication of the pulp and not the blackness of the tooth that principally matters.

It has always been my practice to use anæsthetics freely in extracting for children. Putting aside the question of humanity, it is a sound policy to make the child's early experiences of dentistry painless; particularly so if the extractions are to be followed straightway by stopping at the next visit.

The routine anæsthetic for dental cases at the Hospital is ethyl chloride, and after several years of experience with it I can safely say that for this purpose it is unrivalled. In nearly every case the anæsthetic period is ample for all the necessary extractions, induction of anæsthesia and recovery are both rapid, and with ordinary care it is very safe. A good colour is nearly always maintained, cyanosis only occurring when there is some respiratory obstruction or refractoriness in breathing.

Out of close on 6000 administrations in the dental department alone there have been no deaths, and hardly any cases giving cause for anxiety, although for the most part the patients were by no means robust, and had had no special preparation for an anæsthetic, being promptly treated at the first visit.

It will, of course, be conceded that these are not the ideal conditions of administration, but the urgencies of aching teeth and poisonous stumps render it unavoidable.

With adults I have had far less experience of this anæsthetic than with children, and consider nitrous oxide both pleasanter and safer, but in the case of children, the quietude and long duration of anæsthesia, and comparative absence of contortions, render ethyl chloride much the more efficacious of the two.

Perhaps its chief drawback is the pungency of the vapour, which causes many children to hold the breath at first or perhaps struggle. On recovery in some cases there is a little vomiting, which could no doubt be to a large extent prevented by suitable preparation beforehand. It is unfortunately by no means uncommon for miscellaneous delicacies to be consumed whilst waiting for treatment.

In my earlier years at the hospital nitrous oxide held an unchallenged position and was used as a matter of course, but it was found quite impossible to complete many cases at the one administration, and this added very considerably to the work.

Another minor drawback was that young inexperienced anæsthetists frequently got into difficulties with the apparatus with surprising results and much waste of gas.

Children's mouths heal well after extraction even in very septic cases, and in individuals of very indifferent physique. Rarely is the healing of a socket long delayed, and then only in certain cases of bad abscesses in the lower permanent molars.

Severe hæmorrhage following extraction is also fortunately rare, and up to now I have escaped "bleeders."

Extractions completed, the patient is told to come again for stopping if such is required, and as, generally speaking, only one tooth can be filled at each visit, several sittings may be necessary before the mouth is in order.

Now the personal equation of our patient becomes of the utmost importance; we can use compulsion in the matter of extraction, but decidedly not in stopping. It is quite impossible to do a stopping for an actively resisting child, and when we realise that persuasion will not answer, there is nothing for it but to abandon the attempt and hope for better luck on a future occasion.

Fortunately with the use of anæsthetics for the painful preliminaries (extractions), it is only now and again that coaxing methods fail, and gradually the child gets more confidence as it finds the proceedings painless, and great care must be taken to ensure their being so.

Children vary as their parental training, or lack of it, and where discipline has been enforced the dental surgeon can do much, whilst the evil practice of spoiling or indulging them will tell with marked effect against the best intentions.

It is very noticeable that the children of alien parents, who attend the hospital in large numbers, yield a large proportion of the unmanageable patients, and this is clearly due to bad parental example, since the mothers are usually excessively nervous and wanting in self-control.

Stopping teeth for children is by no means easy work; their mouths are small, there is great trouble in getting them to keep them open, they are intolerant of any discomfort and soon get fidgety and tired, whilst the activity of their salivary glands is, at times, wonderful, and renders the task of keeping a tooth dry whilst a stopping is inserted a feat to be proud of.

I have found my best patients often enough in little ones of three to five years old, where no painful extractions have been done, and there are no preconceived ideas about dentistry.

The dental engine is used freely in preparing cavities, the general insensitiveness of the temporary teeth rendering this possible, and enabling us to do stopping that will save them for their physiological period.

As I am often asked the question, "Why do you take the trouble to stop the first teeth?" the reasons might be perhaps here mentioned why it is considered necessary. Firstly, because it is highly important for the sake of its digestion that the child should have as many good teeth to chew with as possible; secondly, because the nutrition and development of the jaws and correct placing of the permanent teeth is largely dependent upon the temporary dentition remaining intact for its proper period; and lastly, because a decayed first tooth left untreated will often bring about the decay of an immaculate permanent neighbour at the point of contact.

The most important teeth of the temporary series to preserve are undoubtedly the second molars, and if time presses attention may be limited to them; they are the largest and most useful teeth of the series, and have an early and close relationship with the first permanent molars.



These latter are cut at from six to seven years old, and as soon as they are through require careful examination with a probe to detect any incipient caries in the fissures of the crown. Interstitial caries of the permanent teeth (*i. e.* involving the approximal surfaces) comes later, and there is little of it to be treated till after the age of twelve, which is the hospital age limit.

Saving the permanent teeth is not so difficult a task if the child has had previous experience of stopping, but we must be prepared to find them more sensitive than the milk teeth, requiring still more careful and gentle handling; moreover, the work must be done as thoroughly as circumstances will permit with a view to permanence.

The first permanent molars are remarkably susceptible to caries, and their salvation constitutes the principal part of the stopping work done, but in a lamentably large number of cases decay has gone on too far for the operation to be practicable, and the forceps have to be resorted to. The frequent early loss of these teeth is one of the most striking features of this class of patient.

Defective enamel (hypoplasia), a condition in which the enamel of the permanent teeth is craggy, pitted, grooved or pigmented, is met with in abundance. It represents a life-long impress of some nutritional check or imperfection during the period of calcification.

Little can be done remedially for the children except stopping the deeper pits or crevices, and in some cases applying silver nitrate to the back teeth to check the tendency to superficial caries.

Ulcerative stomatitis is very common in these children. The typical case is unilateral with ulceration of gum, cheek and margin of tongue, soft offensive deposit on teeth of affected side and marked foetor of breath.

It occurs in states of lowered vitality, and is generally excited by some local irritant, usually a loose septic temporary molar.

The removal of the latter with disinfectant mouth-wash and internal administration of chlorate of potash effects a speedy cure in nearly every case.

A recent paper which the writer had the pleasure of reading before the Children's Diseases Section of the Royal Society of Medicine gives further particulars of this disease as noted in these patients.\*

Tooth brushes of an approved pattern and reliable make are now stocked at the Hospital dispensary and retailed to patients at a charge of 2d. each, slightly less than cost price. Papers of instructions are also issued explaining the method of using the

\* 'Proc. Roy. Soc. Med.,' 1911, iv (Children's Section), p. 70.

brush, and advising precipitated chalk and Castile soap used together as a dentifrice. Of course everything for these patients has to be absurdly cheap, or there is little likelihood of the advice being followed.

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## MORBILLIFORM RASH IN A CHILD.

By J. ALLAN, M.D.

TRANSIENT rashes in children are by no means uncommon, and the causation of such often cannot be definitely decided. The following case is one in which a rash similar to that met with in measles developed, the causative factor in which was decidedly obscure. A girl, aged 13 years, had for many years been under treatment for kerato-iritis of the right eye, but this condition had now become quiescent. There was also internal strabismus of that eye, and it was desired that the eye should, if possible, be straightened. Under an anæsthetic (chloroform and ether) tenotomy of the right internal rectus was done. Two days afterwards a rash developed, which is accurately described as morbilliform. It was a perfectly typical measles rash except that the face was unaffected. The child felt rather out of sorts and was inclined to be sick, though she did not actually vomit. Other symptoms were entirely negative—no headache, no temperature, no sore throat, no coryza, no watering of the eyes, etc. The rash disappeared within forty-eight hours and there was no subsequent desquamation.

What was the cause of the rash? Among the possible ætiological factors may be mentioned measles, German measles, food, drugs, and the anæsthetic.

With regard to its being due to one of the exanthemata, I think that most improbable. No doubt many anomalous forms of measles and German measles do occur, but the entire absence of accompanying symptoms seems a strong point against its being either of these. Again, several unprotected children (*i. e.* children who had not previously had measles or German measles) came in contact with the patient and did not develop either of these diseases. There was no history of recent exposure to infection. The child had previously suffered from measles, so that this disease might almost certainly be excluded, seeing that a second attack of measles is not common.

The fact that the face escaped is strong presumptive evidence against its being either of these diseases. After taking into consideration all the points mentioned one may, I think, justly exclude these two exanthemata.

As to a dietetic factor, that is also not a probable explanation. The child was having good plain food, and she had eaten nothing likely to produce a rash.

A post-anæsthetic rash is an occasional occurrence. I have several times seen such develop, but I have not seen one which simulated the rash of measles. All that have come under my notice were scarlatiniform in character, and were in evidence immediately after or within a few hours of the exhibition of the anæsthetic. Now the rash in the case in question did not show itself for two days—a fact which practically vetoes this theory of the causation. Another fact of importance which affords further support against this being the causative factor is that on three other occasions I had given this child an anæsthetic without any subsequent appearance of a rash.

As to drugs, the child was not having medicine internally. She of course had the usual preparatory treatment before the administration of the anæsthetic, and in this case the intestines were acted on by calomel (gr. ij) followed by a saline purgative. We sometimes do meet with cases in which the administration of a cathartic drug produces a rash, often morbilliform in character. But the rash did not develop until three days after the drugs had been taken, and moreover the child experienced this same preparatory treatment at three different times without any result of this nature. Both these points militate strongly against our accepting this cause for the rash. The lower bowel was not cleared out with an enema, so that factor may be dismissed at once. The only other drug that might have been indirectly absorbed into the system was boric acid. After the operation the eye was bathed with boracic lotion (10 gr. to the oz.) every two or three hours during the day, and the question is, could enough be absorbed to produce toxic symptoms in the form of a rash? This explanation may seem a little far-fetched, but it appears to me to be the most feasible of all. During the course of lavage of the ordinary healthy eye there would doubtless be some absorption (infinitesimal in amount) of any drug in solution applied. For a short time after an operation such as tenotomy of an internal rectus there would undoubtedly be greater opportunities for any drug being absorbed, but even in such a case the quantity absorbed could not be large. Here a solution (10 gr. to the oz.) was employed, and probably not more than four ounces were used at each dressing. Of that amount



only a very small quantity could have been taken into the system, so that one would really have to assume a marked idiosyncrasy on the part of the patient. The boric lotion was not stopped, but it is a significant fact that the disappearance of the rash coincided with the reduction of the eye washings to thrice daily.

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## The Royal Society of Medicine.

### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Friday, January the 26th, 1912.*

Dr. G. A. SUTHERLAND, *President, in the Chair.*

**Cases Illustrating the Late Results of Muscle Transplantation for the Relief of Talipes Valgus (Paralytic).**—Mr. DOUGLAS DREW showed these cases mainly to illustrate the tendency to the development of a slight degree of talipes varus as the result of transplanting the tendon of the peroneus brevis on to the tibialis posticus in cases of paralytic talipes valgus. All the cases were well-marked examples of the deformity; in one the deformity was associated with equinus and in another with calcaneus. An interval from one and a quarter to three and a half years elapsed between the onset of the paralysis and the operation for the relief of the deformity. In all the cases the same operation was performed for the relief of the valgus part of the deformity—transplanting the tendon of the peroneus brevis on to the tibialis posticus by passing it across, beneath the tendo Achillis, and over the other tendons at the inner side of the ankle. The operation was most successful in remedying the valgus, but in every instance a slight degree of varus has supervened.

**Two Brothers with Hæmophilia.**—Dr. THEODORE THOMPSON.—J. D—, aged 10 years, a thin, poorly nourished boy. Symptoms noticed since infancy. Frequent bruising on very slight trauma. Bleeds for one hour if he scratches his hand. Sometimes there is slight bleeding from the mouth, in which there are several carious teeth. On one occasion there was severe hæmorrhage from the gums (1908). For several years has had attacks of pain and swelling in the knees. The left knee was first affected and is now enlarged, and the synovial membrane thickened. The right knee is swollen and there are synovial effusions. No gastro-intestinal hæmorrhages. Coagulation time (Wright's method), five minutes (normal, three minutes).

A. D—, aged 5 years. Stout and well nourished. Extensive bruising of the skin and deeper structures occurs on very slight injury. No bleeding from mouth, nose, or intestines. The only family history of bleeding is on the mother's side.

**Case of Cerebellar Tumour.**—Dr. ERIC PRITCHARD and Mr. SYDNEY STEPHENSON.—Five years ago patient received a blow on the head.

Three years ago he vomited for no apparent cause, and since then he has been subject to intermittent attacks of headache, vertigo, and sickness, which are preceded by optic prodromes, which usually take the form of fortification spectra with a brilliant range of colours. There are no paralyses and no disturbances of a psychical or sensory character beyond those stated. There is slight inco-ordination in walking and Romberg's sign is present. Wassermann negative; von Pirquet negative. History of tubercle in mother's family.

Eyes: Right vision,  $\frac{5}{6}$  (two letters); left vision,  $\frac{5}{6}$  (six letters). Pupils, 6 mm. to 6.5 mm. Hippus, especially in left eye. The pupils respond to light, both directly and indirectly. When the eyes look straight at an object they jerk slightly up and down. There are also jerking movements on looking inwards, outwards and upwards. Double papilloedema, *i.e.* swelling of each optic disc (summit seen with + 4.0 D. spherical glass) without inflammatory signs or retinitis. The retinal veins are relatively large and the retinal arteries relatively small.

**Deformity of the Chest.**—Dr. R. C. JEWESBURY.—Girl, aged 12 years. The mother first noticed "something wrong" with the right shoulder about ten months ago. There was no pain or loss of power and the general health was excellent. She had a severe fall down fifteen stairs when three and a half years old, and was considerably hurt at the time. Family history good. The upper part of the right side of the chest is much flattened, the first and second ribs are sunken, and bony thickening is felt on these ribs below the clavicle. The pectoral muscles on the right side look wasted, but there is no loss of power. Lungs normal.

Radiogram by Dr. I. Bruce shows deformity of first and second ribs right side. Bony outgrowth from first rib projecting downwards and articulating with similar growth from second rib. Also cervical ribs well developed on right side and rudimentary on the left.

**Three Cases of Hemiplegia.**—Dr. R. C. JEWESBURY.—(1) Boy, aged 4 years. Right hemiplegia and fits, chiefly affecting right side, since birth. Marked atrophy of right side of face, narrowing of right palpebral fissure, weakness of muscles of right side of face, contraction of right pupil and coloboma of right optic disc. (2) Girl, aged 7 years. Left hemiplegia since she was seven months old. Fits of epileptic type, chiefly affecting right side, for last five months. (3) Boy, aged 4 years. Loss of power in right upper limb noticed one month ago. Squint for last six months. Backward boy; speech difficult to understand.

Wassermann negative in all three cases.

**Congenital Pulmonary Stenosis without Cyanosis.**—Dr. PARKES WEBER.—Fairly well built and healthy-looking boy, aged 6 years. He is of very active habits, and there is no cyanosis, dyspnoea, or clubbing of the fingers. Examination of the heart shows that the apex-beat is rather too far to the left (half an inch outside the nipple-line), and that the dullness extends slightly too far to the right. The fact that the size of the heart is somewhat in excess of the normal is confirmed by Röntgen-ray examination. Over the præcordium a harsh systolic murmur is to be heard, with its maximum intensity over "the pulmonary area" to the left of the sternum. The murmur is not carried up into the vessels of the neck. Blood-count (May, 1911): Red cells 4,730,000, and white cells 11,000 to the cubic

millimetre of blood; hæmoglobin 70 per cent. There is no history of rheumatism. The boy's mother died after his birth, apparently from puerperal fever.

**Lymphatism.**—Dr. E. CAUTLEY.—Boy, aged  $6\frac{1}{2}$  years, the eldest of three children. Family history unimportant. Cannot be said to be unduly prone to infectious diseases although he has had measles, varicella and bronchitis. Last year he was under treatment for anæmia. Left testicle undescended. Signs suggestive of lymphatism: (1) The boy is tall for his age. (2) There is a somewhat triangular patch of dulness over the manubrium extending more to the left than the right side with its base upwards. (3) Some general enlargement of the lymphatic glands and spleen. (4) Adenoids and hyperplasia of the circumvallate papillæ. (5) Heart beats slowly, and remains slow although the boy is very frightened. The first sound is loud and rather slurred at the apex (? a small heart and relative aortic stenosis). Red cells 3,200,000, white 50,000 per c.mm. (6) Pupils large and complexion pale. (7) Thin skin with excess of subcutaneous fat.

**Shortening of the Left Femur.**—Mr. P. L. MUMMERY.—Boy, aged 7 years. Breech presentation at birth. Left leg  $1\frac{1}{2}$  in. shorter than right. X rays showed a very slightly reduced angle of the neck of the femur, with no other deformity but a slight thickening in the neighbourhood of the upper epiphysis. The shortening was probably due to injury at birth to the upper femoral epiphysis. Mr. Mummery proposed to remove a piece of the centre of the shaft of the femur in order to make the legs the same length and to bring the knees level. He would remove slightly more bone than was necessary to correct the length in order to allow for any subsequent difference in development between the two femora.

**Specimen of Tuberculous Tumour of the Dura Mater in a Child, aged 14 months.**—Dr. E. CAUTLEY.—The patient was the third child, born at term and weighing 10 lb., and breast-fed. The mother had had no miscarriages. Two other children had got pertussis. On November the 7th, 1911, he was admitted to Guy's Hospital for wasting of three months' duration, but did not improve very much. At this time he was weaned. He was admitted to the Belgrave Hospital for Children on December the 27th with a history of slight cough of fourteen days' duration, and general convulsions at mid-day, with cyanosis and loss of consciousness. The temperature at 3.30 p.m. was  $97^{\circ}$  F., and examination revealed general bronchitis. At 6 p.m. fresh general convulsions occurred, perhaps a little more on the left than the right side, and the temperature rose to  $101^{\circ}$  F. Next morning the child seemed well. On examining the chest in the afternoon there were definite signs of consolidation of the left upper lobe, most marked in the first and second interspaces near the sternum. The liver was unduly large, and there was distinct evidence of rickets. The case was regarded as one of broncho-pneumonia of the left upper lobe, possibly due to pertussis, though the history of prolonged wasting and the enlarged liver were in favour of tuberculous disease. The child weighed 14 lb. 5 oz., and progressed favourably for ten days, except for loss of weight. On January the 4th he had lost 4 oz. On January the 8th he had lost a further 9 oz. In the evening he had further fits and his temperature rose to  $100.6^{\circ}$  F. Two days later he had more convulsions and died. Throughout the illness the pulse-rate was unduly high and the rhythm not at all suggestive of a tuberculous affection of the brain.



*Autopsy.*—Situated under the manubrium sterni, superior to the pericardium and encroaching on the left lung, was a large suppurating tuberculous mass. It had apparently begun as a tuberculous gland in the anterior mediastinum, and, breaking down, had extended into the upper lobe of the left lung, which showed on section tracts of pus and small cavities. The glands in the posterior mediastinum were also enlarged and caseous. Some recent adhesions were present in the left pleural cavity. The abdomen was not examined. Attached to the dura mater, and apparently growing from it, was an irregularly shaped tuberculous tumour about the size of a large hazel-nut. It was situated on the right side and caused a corresponding depression, about  $\frac{1}{2}$  in. deep and  $\frac{3}{4}$  in. in superficial diameter, in the superior parietal lobule posterior to the ascending parietal lobule. There was no general dissemination of tubercles in the brain or lungs.

**The Radical Cure of Inguinal Hernia in Children.**—MR. PHILIP TURNER described the following method which he had used in twenty-five cases.

The external oblique aponeurosis is exposed by a short incision above Poupart's ligament external to the external abdominal ring. An incision  $\frac{1}{2}$  in. long is made through the aponeurosis just above the middle of Poupart's ligament. The internal oblique thus exposed is drawn upwards and outwards bringing into view the cord covered by the cremaster just below the internal abdominal ring. After the cremaster has been torn through a blunt dissector is insinuated under the cord and sac, which are drawn through the small incision in the external oblique. The cord is spread out, when the edge of the sac is readily seen and easily separated. It is isolated as far as the internal ring and then drawn upwards and readily shelled out from the lower part of the cord. When completely isolated it is ligatured and removed. The cord is then pushed back into the canal, the internal oblique falls back into position, and the small incision in the external oblique is closed by a few catgut sutures.

The advantages of this operation are—

(1) It is easier to separate the sac just below the internal ring for it is less adherent there to the coverings and constituents of the cord than at or below the external ring. The spermatic vessels are thus less likely to be injured and a post-operative hæmatoma is improbable. Communication between the sac and tunica vaginalis presents no difficulty, for the testicle is easily drawn up into the lower angle of the wound.

(2) The minimum amount of damage is sustained by the inguinal canal. The small incision in the external oblique scarcely opens this structure for it is above the internal ring. Suture of the small wound in the aponeurosis is easy. When the whole canal has been opened up suture in the region of the external ring often presents difficulties. The method can be carried out equally easily in children of all ages and is advocated as a simple way of effecting the essential point of a radical cure, viz. complete removal of the sac with the least possible interference with the inguinal canal and the spermatic cord.

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## EPIDEMIOLOGICAL SECTION.

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*January the 26th, 1912.*

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**Acute Poliomyelitis. An Analysis of Sixty-two Cases Occurring in and around Edinburgh in the Epidemic of 1910.**—Dr. H. BRUCE Low —The following conclusions were arrived at:

(1) The cases did not present any characteristic symptom, or group of symptoms, in the prodromal period. (2) There was practically no evidence to show that any of the cases were infected by contact with another patient. (3) The nature of the employment of the patient, or patient's father, had no relation to the disease. (4) Abortive cases were not common. (5) The duration of the prodromal period varied from twelve hours to two months. (6) In comparatively few cases was the attack attributed to any definite cause. (7) The distribution of the paralysis in the majority of cases was bilateral. (8) Five per cent. of the cases completely recovered, and in 14.5 per cent. there was no recovery. (9) The duration of the paralysis in the parts which completely recovered varied from three days to six months, but there were parts which were still improving seven months after the onset of the paralysis. (10) The month in which there were the greatest number of cases was also the hottest month of the year, and the month in which there was the highest rainfall. (11) Concomitant symptoms were similar to those in other epidemics. (12) There was practically no evidence that schools were responsible for the spread of the disease. (13) There was no contemporaneous paralysis among domestic animals.

**Poliomyelitis in Devon and Cornwall in 1911.**—Dr. R. J. REECE.—Prior to September the 16th, 1911, 154 cases occurred, and by December the 16th, 224 cases, which were distributed over twenty-three urban and twenty-six rural districts. With the exception of the ataxic form each of Wickman's eight types was represented. Among 218 cases 131 were males, 87 females; 46.8 per cent. occurred in the first quinquennium, 32.1 per cent. in the second, 9.6 per cent. in the third, 2.3 per cent. in each of the fourth and fifth quinquennia, 2.8 per cent. in the sixth, and at all ages over thirty 4.1 per cent.

Of 218 cases 42 died, a mortality of 19.2 per cent.; of these 14 were in the first quinquennium, 14 in the second, 6 in the third, 1 in each of the fourth and fifth quinquennia, and six were over twenty-five, the highest age being forty-six.

Lumbar puncture was performed in some cases which showed meningeal symptoms but in none was the meningococcus discovered.

The disease was most prevalent in the hot weather and declined after the earth and water temperature had reached the maximum. Groups of cases were met with here and there under conditions consistent with case to case infection, probably direct but conceivably through biting insects. There was a strong suggestion that the healthy carrier might serve directly or indirectly in transferring poliomyelitis to distant and exceptionally isolated dwellings. There was an indication that poliomyelitis might be represented locally, almost entirely by abortive cases which on occasion might be highly infectious.

Dr. Reece concluded by drawing a parallel between poliomyelitis and diphtheria, which on its first-introduction to England in the middle of the nineteenth century was a disease of rural districts but had since become also a disease of towns.

It was conceivable that poliomyelitis might take a similar course.

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## Philadelphia Pediatric Society.

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January the 9th, 1912, J. TORRANCE RUGH, M.D., President.

*Fifteenth Anniversary Meeting.*

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**Cold Air in the Treatment of Disease in Children.**—Dr. S. McC. HAMILL discussed the general principles involved in the application of fresh air to the treatment of disease. He spoke of the former antipathy to the exposure of the sick to draughts and low temperature, and the gradual evolution, first airing rooms, then ventilation, finally constant opening of windows and placing patients in the open air. He reviewed our knowledge of the factors responsible for the destructive effects of shut-in atmospheres, considering carbon dioxide as less important than was formerly believed, laying stress on the bad effects of heat, moisture and still atmospheres, and commenting on the recent suggestive work of Rosenau and Ames, who had demonstrated the presence of organic matter in the expired breath of human beings by applying the reaction of anaphylaxis. Low temperatures were not injurious in their effects so long as the patient was protected from bodily discomfort by the application of a sufficient amount of clothing and bed covering.

Dr. P. J. MILTON MILLER, of Atlantic City, N.J., discussed cold air in disease of the respiratory tract. This treatment was not new, as it had been in use since the days of Herodotus. The absence of fresh air was known as a cause of respiratory affections. After reviewing the ways in which the cold fresh air acted, Dr. Miller said that he believed it indicated in tuberculosis, pneumonia, chronic bronchitis, foetid bronchitis, pulmonary gangrene, old empyema and laryngismus stridulus. It was contra-indicated in asthma, emphysema, moist bronchitis, some forms of broncho-pneumonia, laryngitis, the early stages of common cold and influenza. In the respiratory affections of early life the beneficial effects of cold fresh air far outbalanced its defects. The treatment was safe and highly beneficial in these affections, provided judgment, prudence and common-sense were employed in its administration.

Dr. E. E. GRAHAM discussed cold air in the treatment of diseases other than of the respiratory system. He described in detail the manner in which children should be exposed to cold air, laying particular stress on its good effect upon young infants. He advocated its use in tuberculosis, typhoid fever, measles, whooping-cough, anæmia, and the acute gastro-intestinal affections.

Dr. J. P. CROZER GRIFFITH believed in cold air, but while good for many conditions, it could not be good for everything. The cold-air fad was overdone nowadays. He had observed recurrence of illness when a child was deprived



of fresh air, with return to health after the child was again exposed to the cold air. Cases of bronchitis and broncho-pneumonia did better without cold fresh air; many other conditions improved with cold air. Dr. Griffith believed that there was still a place in therapeutics for the croup tent.

Dr. J. H. McKEE used cold air in pneumonia and certain toxæmias. He exposed cases of epidemic influenza to cold air as long as they had fever, but never after the temperature fell. Otitis and laryngitis should be protected from cold.

Dr. J. CLAXTON GITTINGS spoke of two conditions in particular, broncho-pneumonia with profuse bronchial secretion, and acute bronchitis in children with adenoids. Apart from the irritating effects of cold air upon the air-passages in broncho-pneumonia, the irregular temperature constituted a real difficulty in the cold-air treatment. In croupous pneumonia the temperature was usually high and continuous, while the skin was apt to be dry. The amount of outer covering, which was of such importance, could be easily regulated. In broncho-pneumonia, on the other hand, the temperature was subject to marked fluctuations, and with the fall in temperature there was often found a leaky skin. The problem of proper protection against cold and the avoidance of excessive covering was thus made more difficult. In cases with adenoids, in which acute attacks of coryza were so often followed by infection of the bronchial passages, Dr. Gittings had found that sending the child out into the cold air often greatly prolonged the bronchial irritation. Unless such cases could be treated in bed at an even temperature, without the variations encountered in going from house to street, he often found it best to restrict the child, allowing it the free run of the house but prohibiting trips out of doors. In this way the child would more quickly recover so that the necessary adenectomy could be performed.

Dr. E. J. G. BEARDSLEY stated that during the past five years he had enjoyed a rather extensive experience with the fresh-air treatment of disease in the crowded sections of the city. It had been his experience that the mortality of pneumonia, even in patients who lived in what was usually termed "unfortunate surroundings," was practically *nil* if one could insure an abundant and continuous supply of fresh air with proper food, properly prepared and administered, and could prevent unnecessary medication. He had treated 187 children under twelve years of age with pneumonia without a death, and ascribed the success in a great measure to the fresh air. He had also observed that, if patients with measles or whooping-cough were allowed to have an abundant and continuous supply of fresh air from the beginning of illness, they rarely developed pneumonia.

Dr. F. B. JACOBS spoke of a coloured boy, aged 5 years, with croupous pneumonia, doing well while kept on the roof, who died an hour after being taken indoors. Dr. Jacobs added that he had noticed that some children did better if brought indoors after the fever had disappeared.

Dr. S. SEILIKOVITCH said that he found cold air beneficial in croupous pneumonia but not in broncho-pneumonia. Oxygen was no longer necessary when cold air was used. He did not expose cases of measles to cold air, although he did expose children with whooping-cough. He thought that cases of measles exposed to cold air contracted pneumonia. Broncho-pneumonia cases were benefited by warm, moist air.

Dr. HAMILL said that he utilised fresh air in the treatment of disease as he utilised every other remedy which he applied to the treatment of disease, namely, according to the requirements of the individual case; and he believed that anyone who was so devoid of common-sense as to not treat each

patient as an individual had better withdraw from the practice of medicine. He did not agree with those who would exclude fresh air in the treatment of catarrhal conditions of the upper air-passages. He treated these conditions with windows open sufficiently to admit fresh air and keep the atmosphere of the room in motion; and he was perfectly satisfied that his results were better than when he had treated such cases in the vitiated atmospheres of tightly closed rooms.

Dr. GRAHAM believed that care should be exercised in cases of inflammation of the upper air-passages; but a little common-sense would solve many of these problems.

The PRESIDENT then delivered the Annual Address.

## Abstracts from Current Literature.

### Medicine.

Some common affections of the genito-urinary system in childhood (*Clin. Journ.*, 1911, xxxviii, p. 209).—R. HUTCHISON considers the following subjects: (1) Anuria: This never lasts longer than twenty-four hours, and is quite harmless. A hot bath and a dose or two of sweet nitre suffice to restart the secretion. (2) Polyuria may occur for brief periods, but if continued should suggest diabetes mellitus or insipidus. (3) Uric acid gravel: The pain may closely resemble intestinal colic. The treatment consists in reducing the amount of food and giving citrate of potash freely. (4) "Uric acid storms": Commonest in children about three or four years of age, often occurring at regular intervals, and showing periodicity. Their occurrence is ushered in by the child being out of sorts for a day or two. There may be an ethereal odour of the breath. The author thinks they are due to functional hepatic disorders. Treatment consists in cutting down the carbohydrates—not the proteins—and the regular use of an hepatic aperient, as rhubarb and grey powder. (5) Vesical spasm: Here citrate of potash and hyoscyamus are useful. (6) Calculus. (7) Infections of the urinary tract due to *Bacillus coli*: This organism may cause a simple bacilluria, cystitis, pyelitis, and suppurative nephritis, which is nearly always fatal. Treatment in all these forms consists in large enemata and calomel in doses of  $\frac{1}{10}$  gr. two or three times a day. Citrate of potash is almost a specific in *coli* pyelitis in large doses. In obstinate cases a vaccine should be tried, prepared from the patient's urine. (8) Functional albuminuria: This is of no serious significance, and passes off without damage to the kidneys. The author draws attention to a definite cloud forming in the urine on the addition of acetic acid in the cold alone. (9) Nephritis: This may be acute, tubular, or glomerular; the latter has the most favourable prognosis, and chronic parenchymatous. Spontaneous diuresis may suddenly occur in these latter cases, and all the œdema disappears in a day or two. (10) Vulvo-vaginitis, due to pyogenic organisms or the gonococcus: Thorough irrigation of the parts with saturated boric acid or  $\text{HgCl}_2$  (1 in 5000—1 in 2000) are essential lines of treatment. In obstinate cases a vaccine may be useful.

F. R. B. ATKINSON.

**Idiopathic enuresis** (*Gaz. des Hôp.*, 1911, LXXXIV, p. 1947).—**A. Collin** considers the following types of enuresis: (1) The prolonged infantile type. Nocturnal incontinence has persisted after infancy has terminated, and will continue until the nervous system has ceased to develop. (2) Digestive form. Here the digestive system is at fault, and the condition is cured by careful regulation of the diet. In both these forms the soundness of sleep is the initial factor; the sounder the sleep the more likely is the enuresis to occur. (3) Emotional form, occurring in children of an excitable temperament.

F. R. B. ATKINSON.

**Cylindruria** (*Monatsschr. f. Kinderheilk.*, 1911, x, p. 354).—**J. Peiser** describes a case of the above without albuminuria in a child, aged 2½ months, which ended fatally. In some cases it is of little importance, and is only to be considered a symptom of nephritis when other phenomena of disturbed renal activity are noticeable.

F. R. B. ATKINSON.

**Lordosis and albuminuria in childhood** (*Riv. di Clin. Pediat.*, 1911, ix, p. 493).—**M. Pincherle** has made extensive clinical and experimental observations on this subject. He finds that lordosis is an important factor in the albuminuria of children. Spontaneous lordosis, temporary or permanent, of the upper segment of the lumbar spine, only causes albuminuria exceptionally; there is no relation between the degree of spontaneous lordosis and the elimination of albumin. In some subjects with typical and marked lumbar lordosis it was not possible to determine the albuminuria even by artificially exaggerating the lordosis. Artificially produced lordosis of moderate degree causes, on the other hand, in the majority of instances, a renal reaction both in the vertical and horizontal position. This reaction varies, according to the subject; is least in normal individuals and most in infants predisposed to it by nephritis, recent infective disease, and tuberculosis. The renal reaction to lordosis is characterised by oliguria, albuminuria, and the appearance of renal elements in the sediment, and is directly dependent on the mechanical injury, the general condition of the subject, and the local condition of the kidney. The traumatism of artificial lordosis tends to reproduce the picture of the affection which has been going on in the ordinary system and to bring into prominence its lessened resistance. Hence artificial lordosis may have some diagnostic and prognostic importance in the direction of confirming renal debility. In orthostatic albuminuria of typical course, artificial lordosis produced in the author's cases a marked reaction, with momentary change in the classic type of the albuminuria and with the appearance of various renal elements in the urinary sediment. In certain subjects with serious anæmia, cardiac disease and diphtheria, the reaction to artificial lordosis assumes special characteristics. In a word, lumbar lordosis is an efficient mechanical factor in the genesis of some forms of albuminuria. It does not, however, act as a rule alone, nor in a purely physical manner, but requires to be associated with another important cause, viz. the lessened resistance of the urinary apparatus. In his experiment on animals, the author found that artificial lordosis caused physico-mechanical changes, which induced special modifications in the renal circulation and consequent albuminuria.

VINCENT DICKINSON.

**The renal functions in the nephritis of children** (*Arch. de méd. des Enf.*, 1911, xiv, p. 641).—**P. Nobécourt** and **P. Merklen** describe four varieties of nephritis in children: (1) Simple albuminous nephritis (Cas-



taigne), in which the elimination of chlorides and urea is normal. Albuminuria is the only symptom. There is no œdema nor uræmia. The blood-pressure is but little affected. (2) Nephritis associated with chloride retention. The symptoms are œdema and increase of weight. The œdema is usually limited to the cellular tissue, but it may invade the deeper organs, producing pharyngo-laryngeal œdema, digestive troubles, pulmonary œdema, hydrothorax and visual disturbance. There is often a slight and transient rise of blood-pressure, and cardiac dilatation with or without gallop rhythm. (3) Nephritis associated with retention of urea, which is accumulated in the blood and other fluids of the body, such as the cerebro-spinal fluid. There is no œdema, but loss of appetite and vomiting, torpor and pruritus are the characteristic symptoms. Arterial hypertension is an early symptom, and later cardiac dilatation with gallop rhythm develop. (4) A combined form due to retention of both chlorides and urea. The first two forms are the commonest, and the last two are comparatively rare. Eighteen illustrative cases are recorded.

J. D. ROLLESTON.

**Acute primary nephritis in children** ('*St. Louis Med. Rev.*,' 1911, ix, p. 235).—**A. Bamberger**.—This is a rare condition. Only eighty-four cases have been reported, including the present one and that of the late Dr. George Carpenter (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, iv, p. 427). The ages range from birth to three years. Females are most often affected. Cases are most frequent in summer and winter. The mortality is about 50 per cent. Interstitial nephritis is the prevailing type found at autopsy. The most frequent symptoms during life are gastro-intestinal (vomiting and diarrhœa), or nervous (convulsions, restlessness, drowsiness, or coma). Œdema is uncommon. In four broncho-pneumonia occurred, and in one pneumonia. Treatment is that of acute secondary nephritis. Bamberger's case occurred in a girl, aged 3 years, who became feverish and restless, and complained of headache. Temperature 103.6° F. Gastro-intestinal intoxication was at first diagnosed, but a few days later a correct diagnosis was reached by examination of the urine, which was scanty, and contained blood and hyaline and granular casts. The face was waxy, but there was no œdema. Complete recovery took place within two months. During the first month the child was kept in bed on milk diet with potassium citrate internally, and later she was given syrup of iodide of iron.

J. D. ROLLESTON.

**Nephritis in purpura** ('*Thèses de Paris*,' 1911-12, No. 12).—**E. Roux** arrives at the following conclusions: (1) Nephritis is a fairly common complication of purpura. (2) It appears due to the same causes as purpura, being frequently a toxic infection of digestive origin. (3) As a rule the onset is insidious; less often it is associated with hæmaturia. (4) The nephritis may assume different clinical forms—(a) simple albuminous nephritis; (b) nephritis with chloride retention; (c) nephritis with retention of urea. (5) The prognosis is grave. Some cases may clear up entirely; only a few are fatal, but the majority pass into the chronic stage. (6) The treatment is that of nephritis in general. The basis contains the histories of twenty-seven cases, one of which is original. Of these six recovered, seven died, and fourteen had persistent albuminuria. Twenty were below the age of sixteen years.

J. D. ROLLESTON.

**Nephritis following acute tonsillitis** ('*Trans. Am. Laryng. Rhinol. Otol. Soc.*,' 1910, xvi, p. 146).—**H. W. Loeb** thinks that acute nephritis following tonsillitis is much commoner than is supposed. The symptoms usually do not appear until some time after the onset of the angina. The nephritis is of the hæmorrhagic type, and is not accompanied by pyrexia, œdema, nor oliguria. Probably many cases of mild nephritis following tonsillitis are overlooked. So-called idiopathic nephritis may be often due to a tonsillitis which has not been considered as an ætiological factor. Finally, chronic affections of the kidney may be due to unrecognised acute attacks of nephritis of tonsillar origin. Four illustrative cases are recorded, one of which occurred in a girl, aged 13 years, daughter of a physician, and was complicated by uræmic convulsions. Recovery took place. Scarlet fever and diphtheria could be excluded in all Loeb's cases.      **J. D. ROLLESTON.**

**Scarlet fever and chronic nephritis** ('*Jahrb. f. Kinderheilk.*,' 1911, lxxiv, p. 195).—**Stroink** records three cases of contracted kidney following scarlet fever: (1) Woman, aged 20 years, scarlet fever complicated by nephritis when five years old. Slight albuminuria persisted. She was admitted to hospital fifteen years later with œdema and low blood-pressure and died of uræmia. (2) Girl, aged 8 years, scarlatinal nephritis at four years. Three years later œdema occurred and in the following year death from uræmia. (3) Death from uræmia sixteen years after scarlatinal nephritis. The necropsy in all three cases showed well-marked naked-eye and microscopic appearances of contracted kidney. Stroink was also able to investigate the subsequent history of twenty-three cases discharged from hospital with persistent albuminuria after scarlet fever. Beyond albuminuria most showed no severe organic lesions, *e. g.* cardiac hypertrophy, retinitis, dropsy, or hypertension. Some complained of lassitude, headache, pain in the side and giddiness, but most were free from symptoms.

**J. D. ROLLESTON.**

**Scarlatinal uræmia cured by lumbar puncture** ('*Gazz. d. osp.*,' 1911, xxxii, p. 1291).—**G. B. Allaria**.—A girl, aged 6 years, developed acute hæmorrhagic nephritis on the eighteenth day of scarlet fever, and twelve days later convulsions, coma, and amaurosis. Twenty c.c. of clear and colourless cerebro-spinal fluid were withdrawn. Coma at once disappeared, but the amaurosis persisted for a few days more. Phlebotomy and the subcutaneous injection of normal saline solution contributed to the child's recovery.

**J. D. ROLLESTON.**

**Renal hæmorrhage in infancy and childhood** ('*Jahrb. f. Kinderheilk.*,' 1911, lxxiv, p. 452).—**I. Rosenstern** reports five cases: (1) Premature birth with hæmorrhage from mouth, nose, throat, intestine, umbilicus, kidneys and in skin. Recovery after gelatin injections. (2) Incomplete form of Barlow's disease manifested by anorexia, pallor, tenderness of limbs and hæmaturia. Recovery on raw milk. (3) Severe anæmia in premature child, aged 1 year. Recovery after gelatin injections. (4) Chronic hæmaturia following cystitis in an infant, aged 10 months. (5) Rheumatic purpura in boy, aged 14 years, accompanied with acute hæmorrhagic nephritis.

**J. D. ROLLESTON.**

**On some peculiar forms of hæmaturia in the course of infantile nephritis** (*Riv. di Clin. Pediat.*, 1911, ix, p. 253).—**E. Orsi** (for his thesis) reports five cases. Hæmaturia he considers to be a frequent symptom in the acute and subacute nephritis of children, and may be protracted, not only because it is associated at times with a process of chronic nephritis, but because it may continue as an isolated symptom. These post-nephritic hæmaturias running on for months and years have exacerbations and reappear after seeming to be cured clinically, owing to the supervention of intercurrent ailments, and even from slight disturbances in the physiological equilibrium. They show a tendency to become accentuated by day and diminish or almost disappear at night. Such forms of hæmaturia are met with in subjects who are decidedly tubercular or have an hereditary taint and presumably a latent tubercular focus.

VINCENT DICKINSON.

**Renal calculus in infants** (*Virchow's Archiv.*, 1911, ccv, p. 335).—**H. Joseph**, in little less than a year, found small calculi post mortem in the renal pelves or calices of forty children in the first two years of life. In twenty-six both kidneys were affected, and in fourteen only one. The calculi appeared as yellowish or brownish-yellow granules or lumps from a pin's head to a hemp-seed in size. Their surface was rough; most could be broken up by firm pressure. All gave the clinical reactions for uric acid. There were no obvious naked-eye changes in the renal parenchyma or pelvis, nor with one exception in which casts were found in the urine were there any symptoms during life to indicate disease of the kidneys or urinary passages. Sixteen had been diagnosed as cases of chronic disturbance of nutrition, sixteen as pneumonia with gastro-intestinal disorders, two as diphtheria, two as staphylococcic dermatitis, three as pulmonary or miliary tuberculosis, and one as meningeal hæmorrhage. The same microscopic changes were found in all, viz. a more or less extensive dilatation of the tubules, which were filled with a peculiar albuminous material. The dilatation often began in the Malpighian corpuscles, affected the convoluted tubules, and in many cases the ascending part of Henle's tubules. The interstitial tissue was usually normal.

J. D. ROLLESTON.

**Acetonuria in childhood** (*Lancet.*, 1911, II, p. 1264).—**R. S. Frew**.—Of 662 children, aged from a few days to 12 years, admitted to the medical wards at Great Ormond Street Hospital in the course of a year, 408 cases, or 61·6 per cent., showed acetonuria. In the majority of cases this came on after admission to hospital, occurred more frequently in children over two years than under that age, and was unaffected by disease. The carbohydrate starvation necessary for its production is attributed to a temporary failure of digestion caused by the change of diet on admission to hospital. Among the 662 cases were only two cases of diabetic coma, none of post-anæsthetic poisoning, none of cyclical vomiting, and only 22·5 per cent. were associated with definite gastro-intestinal symptoms.

J. D. ROLLESTON.

¶ **Acetonuria in diphtheria** (*Munch. med. Wochenschr.*, 1911, LVIII, p. 2153).—**F. Reiche**, during the last two and a quarter years, examined 3826 patients for acetonuria with the sodium nitro-prusside test. In 3200 cases



of diphtheria confirmed bacteriologically acetonuria was present in 65.0 per cent. It was a symptom of the acute stage, lasting only a few days, in many only a single day, in few for a week or longer. It was most frequently found in the first fifteen years of life, in correspondence with the tendency of children to excrete acetone in acute febrile diseases. Its frequency showed a direct relation to the severity of the attack, acetonuria being present in 57.4 per cent. of the mild, 71.1 per cent. of the moderate, and in 80.3 per cent. of the severe cases. In 626 cases of other acute faucial diseases its frequency was as high as 40.2 per cent., so that its presence cannot be regarded as a diagnostic sign between diphtheritic and non-diphtheritic angina.

J. D. ROLLESTON.

**Diabetes mellitus following scarlet fever** (*Midland Med. Journ.*, 1911, x, p. 180).—**G. Bryce**.—A girl, aged 6 years, seven weeks after the onset of mild scarlet fever developed great thirst and became rapidly emaciated. The urine had a specific gravity of 1038 and was loaded with glucose. Death occurred in a few days.

J. D. ROLLESTON.

### Surgery.

**Multiple abscesses in one kidney** (*Med. Record*, 1911, II, p. 749).—**J. Douglas** showed a child, aged 7 years, at the New York Academy of Medicine, on whom he had operated for symptoms of a retrocaecal appendicular abscess, which proved to be an enlarged kidney studded with abscesses. He considers the lesions were due to a pyelitis from colon bacillus infection, the dilated pelvis of the kidney, previous history of cystitis, fever, malaise and lumbar pain assisting him in this conclusion.

F. R. B. ATKINSON.

**Bilateral nephro-lithotomy for multiple calculi in a boy, aged 8 years** (*Liverpool Med.-Chir. Journ.*, 1911, xxxi, p. 397).—**G. Simpson**.—On November 25 the boy received a blow in the abdomen and suffered pain for some days. On December 1 he began to pass blood, though he exhibited none of the symptoms associated with renal calculus. A skiagram showed the right kidney full of stones. On December 20 lumbar nephrotomy was performed and twenty-six stones removed from a hydronephrotic kidney; the largest stone weighed 42 gr. The boy made a rapid recovery. After an interval of freedom from pain and hæmaturia he was readmitted, and on March 14 the left kidney was explored and four stones removed, the largest weighing 38 gr. The wound healed by first intention, and the patient was discharged on April 5 after a skiagram had shown the kidneys to be free from stones. The stones were formed of uric acid and calcium phosphate, and probably formed round a nucleus of blood-clot following the injury. A *résumé* of similar cases previously reported is also given.

DUNCAN C. L. FITZWILLIAMS.

**Calculus of ureter in child** (*Sem. méd.*, 1911, xxxi, p. 476).—**Kirmisson**.—A boy, aged 12½ years, who had formerly had urethral calculi, suffered from violent pain in the left kidney, which was swollen. The X rays showed a calculus in the right ureter. Rapid recovery followed

its removal. Cases of this kind are very rare; eighteen have been recorded, all in boys; in eleven the calculus was in the right ureter.

J. D. ROLLESTON.

**The ætiology of cystitis in male infants** (*Jahrb. f. Kinderheilk.*, 1911, LXXIV, p. 684).—**E. Rach** and **A. V. Reuss**.—The disease is more frequent in girls than in boys, due probably to the shortness of the urethra in the former sex. The bacteria may either pass into the blood, then into the kidneys, and from thence to the bladder, or, as seems more likely, pass from the bowel through the vesical wall, presupposing that the epithelium of the bowel has undergone inflammatory changes. The authors describe a case of a baby, about three months old, in whom the *Bacillus bifidus communis* and paracoli bacillus were the cause of cystitis and pyelo-nephritis, and also three other cases, from a consideration of which they believe that cystitis in boys usually results from disease of the bowel.

F. R. B. ATKINSON.

**Phimosis occurring in three brothers** (*Paris méd.*, 1910-11, II, p. 232).—**Marx** circumcised three brothers, his attention being drawn to their need of the operation by an attack of epilepsy in one of them. He traced the family history back to a Jewish ancestor, and is of the opinion that circumcision for Jews is a necessity, not a mere religious ceremony, due to the racial trait of consanguineous marriages.

RUPERT FARRANT.

**Three cases of maldevelopment of the uterus** (*Austral. Med. Gaz.*, 1911, xxx, p. 580).—**T. G. Wilson** describes a case in a girl, aged 14 years, in whom, on operation, a double uterus with a hæmatocolpos of the left side was found, and in a girl of the same age a small uterus with normal tube and ovary on the right side, and on the left a bigger uterus, and attached to the level of the isthmus of the left uterus a longitudinal swelling running upwards in the position of the left ureter. The third case was in an adult.

F. R. B. ATKINSON.

**Subluxation of the penis** (*Ind. Med. Gaz.*, 1911, XLVI, p. 417).—**N. Rainier** describes two cases in boys aged 14 and 16 years respectively, in which this rare condition occurred, and also five other cases collected from the literature, one of which occurred in a boy aged 6 years, and in another aged 5 years.

F. R. B. ATKINSON.

**An occipital atlas and atlo-axis dislocation** (*New York Med. Journ.*, 1911, II, p. 640).—**L. L. Thompson** describes a case of a girl, aged 13 years, found dead in suspicious circumstances, in whom the above dislocations were found post-mortem. The former is extremely rare, and the author could only find five other cases in the literature of similar pathological findings.

F. R. B. ATKINSON.

**Congenital dislocation of the hip** (*Journ. de méd. de Paris*, 1911, XXXI, p. 569).—**Savariaud** gives an account of the methods of treatment that he proposes to adopt in three cases. To the first, a boy, aged 14 years, he will do nothing, as he considers it beyond treatment. Though the dis-

location was unilateral he would not advise a high boot, as he thinks it increases the deformity. The second case, a child aged 18 months, he advises waiting a year, when fixation will be easier and the child will not constantly wet its bandages. He considers the best age for treatment to be between 2-4 years. In the third case, a child aged 3 years, he proposes to reduce the dislocation by manipulation under an anæsthetic and then to put it up in plaster in the flexed and abducted position.

RUPERT FARRANT.

**Congenital dislocations of the knee-joint** (*'Prag. med. Woch.,'* 1911, xxxvi, p. 517).—**R. Kuh** describes a case in a badly developed child, aged  $1\frac{1}{2}$  years. The condyles of the femur were easily palpable in the bend of the knee, and the skin was stretched by them. The joint itself was extended; active bending was impossible; passively it could be slightly bent. The sagittal and frontal diameters of the joint were increased. The patella was dislocated upwards and was smaller than on the normal side. Tibia and fibula were slightly dislocated outwards. Anteriorly the top of the tibia could be felt. There was at the same time a well-marked pes valgocalcaneus. By pressure and counter-pressure on the head of the tibia and the condyles of the femur reduction was easily effected; then the part was put up in splints. There has been no return of the dislocation. Dislocations of this joint are rare compared with those of the hip. The forward dislocation is more common than the backward; but of 128 cases, 54 were on one side, 48 double-sided. The mechanism of its origin is the same as that of a traumatic dislocation, but in congenital cases the mechanical action is not sudden, but constant. Congenital dislocations must be differentiated entirely from genu recurvatum. In recent cases and young children a bloodless operation followed by plaster-of-Paris bandage suffices; in older cases operative interference will be necessary.

M. D. EDER.

**Flat-feet in women and children** (*'Med. Record,'* 1911, II, p. 222).—**S. Epstein** classifies the flat-foot of children into congenital, rachitic and paralytic, and discusses the flat-foot of adolescence, infective flat-foot, and that occurring in child-bearing women. He gives the indications of the lines of treatment that should be adopted in the different cases and in their different degrees of severity. He condemns the corset shoe, and, as supports, favours Whitman's plates, but emphasises the importance of the surgeon himself ordering the exact size, thickness and shape required, and of not leaving it to the judgment of a mechanic.

RUPERT FARRANT.

**A study of the circulation after the forcible reduction of congenital club-foot** (*'Cleveland Med. Journ.,'* 1911, x, p. 594).—**W. G. Stern** comes to the conclusion that the anæmia, œdema, etc., following the correction of talipes are due, not to the application of a plaster, but to the direct action of the over-correction. He deduces this result from the injection of two recently dead children with coloured plaster, and noting the differences in the vessels when completely and incompletely corrected.

RUPERT FARRANT.

**Removal of the third digital phalanx with formation of a new joint** (*'New York Med. Journ.,'* 1911, I, p. 988).—**E. Beck** gives an account of a girl, aged 6 years, who developed necrosis of the first phalanx of the index



finger following an injury. He removed the necrosed phalanx, and subsequent contraction led to the formation of a new joint between the metacarpal bone and the second phalanx. RUPERT FARRANT.

**Transplantation of a portion of the tibia into the spine for Pott's disease** (*Journ. Amer. Med. Assoc.*, 1911, LVII, p. 885).—Albee furnishes a preliminary report on a new method of osteoplasty in the treatment of Pott's disease of the spine. An incision is made over the spines of the affected vertebræ, and each process is split longitudinally for about  $1\frac{1}{2}$  in. into two portions with one third of the process on the left and two thirds on the right. The soft tissues between them are separated parallel with the muscles. Greenstick fractures are then produced at the base of the smaller portions of each of the processes, thus forming a space to receive the bone graft. A compress of hot saline is then placed over the wound, and an incision is made over the crest of one of the tibiæ from which a prism-shaped piece about 4 by 1 by  $\frac{1}{2}$  in. together with periosteum on two of its surfaces is removed from the antero-internal aspect. The graft is immediately placed in the space between the portions of the spinous processes and the dense fascia sutured over it. Both wounds are then closed. The results so far have been very satisfactory, a firm bony splint with bony union to the vertebræ being obtained which prevents further deformity and helps to arrest the disease.

T. R. WHIPHAM.

### Ophthalmology.

**Intra-uterine ophthalmia neonatorum** (*Journ. Amer. Med. Assoc.*, 1911, LVII, p. 1285).—Only about 100 cases of the development of gonorrhœal ophthalmia in a fœtus *in utero* have been recorded. Dorland here describes one which occurred in his own practice in which infection occurred through a premature rupture of the membranes. The wife of a medical student was admitted into hospital in the first stage of labour, the membranes having ruptured seven days before. Labour was easy and uneventful. When the nurse attempted to instil silver solution into the baby's eyes they were found to be the seat of an advanced gonorrhœal ophthalmia. Greenish pus was exuding in large quantities from each eye, and the conjunctivæ were deeply injected. In spite of treatment one eye became perforated on the following day and was destroyed, while the other showed almost complete corneal opacity from ulceration. The mother, who passed through a normal convalescence, denied all vaginal douching prior to the birth of the child.

T. R. WHIPHAM.

**The results of Credé's method in blenorrhœa neonatorum** (*Wien. klin. Rundschau*, 1911, xxv, p. 549).—Hans Treber has analysed the cases of blindness due to blenorrhœa neonatorum in the Central Blind Asylum of Munich from 1876 to 1909. Between 1876 and 1892, before Credé's method was in use, the average number of admissions from this cause was 42.9 per cent.; between 1892 and 1909 the percentage of admissions from this cause had fallen to 28.4. Children are admitted to the Asylum from eight years; and Credé's method was introduced into most of the women's clinics at the end of 1882 and beginning of 1883. These figures show that this procedure has had excellent results, which would be even better if this method were used at every birth and became as general as vaccination. Silver acetate in solution is the best drug to use;

it should be applied to every baby at birth, not only in institutions, but equally in private practice, without any exception. M. D. EDER.

**A contribution to the study of ophthalmia neonatorum** (*Klin. Monats. f. Augenh.*, 1911, XLIX, p. 537, abstr. *Ophthalmic Review*, 1911, xxx, p. 337).—**R. Bartels** discusses the subject from a bacteriological standpoint, based on the examination of seventy cases of ophthalmia neonatorum. The gonococcus was the chief causative organism, being found in thirty-eight (54 per cent.) cases. A considerable portion of the paper is devoted to the exact differentiation of the gonococcus and related organisms, *Micrococcus catarrhalis* and *Meningococcus intra-cellularis*. Among other organisms found were diphtheroid organisms, pneumococci, streptococci, staphylococci, *B. coli*, etc. The paper ends with some clinical notes, including an account of certain cases in which Credé's method was inefficient as a prophylactic.

J. ALLAN.

**Some unusual manifestations of infection with the Klebs-Loeffler bacillus** (*The Ophthalmoscope*, 1911, ix, p. 95).—**T. Harrison Butler** draws attention to the fact that the diphtheria bacillus may give rise to severe inflammations in the eye which clinically bear no resemblance to diphtheria. One illustrative case given was that of a little girl, aged 8 years, who came under treatment for acute conjunctivitis and pustular eczema of the lower lid (left eye). The child had recently had a whitlow on the right forefinger, and it was thought that the eye infection was staphylococcal. Bacteriologically it was demonstrated that Klebs-Loeffler bacilli were present, with only a few cocci. The child was not in the least ill, and the inflammation soon subsided under treatment with protargol and perchloride lotion.

J. ALLAN.

**Chancre of lid** (*Lyon méd.*, 1911, cxvii, p. 651).—**Rollet and Grand-Clément** showed at the Société d'Ophthalmologie de Lyon a girl, aged 7 years, with an ulcer 4 mm. in diameter situated on the border of the left lower lid close to the punctum lacrymale. The base was indurated and the submaxillary glands much enlarged. Wassermann positive. Cicatrisation occurred in five weeks without any treatment, and no secondary symptoms appeared, but a month after the chancre had healed double interstitial keratitis developed. The father had general paralysis, but the mother was healthy and had had no miscarriages.

J. D. ROLLESTON.

**Spontaneous hæmatomata of orbit** (*Ophthalmology*, 1911, viii, p. 100).—**Brandes**.—A child convalescing from whooping-cough developed exophthalmos in both eyes. Five days later there was a painful pseudo-paralysis and the diagnosis of Barlow's disease was made. Recovery followed change in diet.

J. D. ROLLESTON.

**Penetrating injury of the globe with panophthalmitis due to a gas-forming micro-organism** (*Ophthalmic Review*, 1910, xxix, p. 161).—**R. R. James** places on record the case of a boy who was accidentally shot in the left eye from an air-gun. When seen by the author on the day following the accident there was moderate œdema of the upper lid on the left side with slight chemosis below the cornea; the movements of the globe were fairly full. No pain was complained of and temperature was subnormal. There was a long crescentic-shaped wound vertical in position just to the outer side of the mid-line of the cornea, which was of an opaque colour.

No details of the interior of the eye could be made out. On raising the upper lid absolutely clear bubbles of gas were observed issuing from the wound. The eye was at once enucleated, and the boy was discharged five days later with a healthy, clean socket. The bacteriological and pathological findings are fully described. It was demonstrated that the *Bacillus aerogenes capsulatus* was the organism responsible for the infection. J. ALLAN.

**Irido-choroiditis complicating varicella gangræna** ('*Am. Journ. Derm.*,' 1912, xvi, p. 15).—H. A. BERNSTEIN.—A girl, aged 3 years, belonging to a wealthy family and with no hereditary history developed right irido-choroiditis during an attack of varicella gangræna, the diagnosis of which was confirmed by Abraham Jacobi. There was photophobia, the eyeball was red, the cornea and aqueous were cloudy, and the pupil was obstructed by exudate. Under treatment the photophobia and redness disappeared, and the cornea and aqueous cleared up, but there remained a large mass of organised lymph in the vitreous. The tension of the eyeball was normal, and it seemed possible that if the vitreous opacity was absorbed the eye might recover some useful vision.

J. D. ROLLESTON.

**Ophthalmic zoster** ('*Hospitalstidende*,' 1911, LIV, p. 614).—EHLERS exhibited at the Danish Dermatological Society a girl, aged 13 years, who six weeks previously had had hæmorrhagic zoster of the left frontal temporal and cervical regions. The eruption had faded, leaving a typical scar, and had been followed by left ptosis and diplopia due to trochlear paralysis. There was no facial palsy or neuralgia.

J. D. ROLLESTON.

**Amaurotic family idiocy** ('*L'Echo m'éd. du Nord*,' 1911, xv, p. 437).—L. INGELTRANS.—Infants previously in good health about the age of six months show commencing signs of idiocy, gradual increasing paralysis of the limbs, and blindness, due to atrophy of the optic nerve. They succumb to general cachexia. It is a rare malady, affecting several members of the same family, and nearly all the cases are in Polish Jews. There are two varieties: the infantile one of Tay-Sachs and the juvenile of Spielmeyer-Vogt. In the latter type there is an absence of the macular lesion that is such a characteristic feature of the former, but this, says Jendrassik, does not separate it from Tay-Sachs disease, as the other symptoms are all present. It has to be distinguished from congenital idiocy with blindness—this is not progressive and not fatal. Hereditary syphilis seems to have no effect in its causation, but this has been stated to be so in other kinds of idiocy, and the Wassermann reaction now shows a positive result in many cases when syphilis had not been suspected from clinical examination.

J. PORTER PARKINSON.

**Amaurotic family idiocy** ('*Arch. de Neurol.*,' 1911, II, 9 sér., p. 267).—NAVILLE.—In a family of Polish Jews, consisting of six children, four girls died of the disease at the age of two years, while the two boys escaped. The disease started in the girls at the age of five to eight months with rapidly progressive blindness, diminution of intelligence, and gradual spastic paralysis of neck, trunk and limbs. In one child observed in the children's clinic at Geneva double optic neuritis was found. When twelve months old she was completely amaurotic, quadriplegic and demented. Death took place at seventeen months from broncho-pneumonia following whooping-cough. At the necropsy no gross lesions in the brain and cord were found, but sections of



the cortex showed the pathognomonic change described by Schaeffer and others consisting in swelling of the nerve-cells, most of which presented cystic dilatations. The cell prolongations also showed dilatations filled with a hyaline and slightly granular substance. This is the second case of the disease that has been observed in a Latin country and the first of which the pathological anatomy has been studied.      J. D. ROLLESTON.

**Maculo-cerebral degeneration (familial)** (*Amer. Journ. Med. Sc.*, 1911, II, p. 221).—E. L. Oatman describes this condition under two types—(a) the maculo-cerebral type, in which both retina and brain are affected, and the (b) macular type, in which the retina is alone diseased. He also mentions cases from the literature, as well as his own, of both forms, with excellent diagrams.      F. R. B. ATKINSON.

**A family with a familial form of chorio-retinitis** (*Klin. Monats. f. Augenh.*, 1911, XLIX, p. 699, abstr. *Ophthalmic Review*, 1911, xxx, p. 339).—Lutz describes a form of family choroido-retinitis similar in some respects to that which has been reported by Doyne, but differing in certain of its features. The family consisted of nine children, six girls and three boys; of these, four girls were affected. Both parents were seen and were unaffected. On the father's side all the antecedents for two generations had had good sight; on the mother's side nothing was known of any eye affection, but the data were not so full; there was no consanguinity. In all cases the disease began in the eleventh or twelfth year, and was of rapid onset. Both eyes were affected. Within a few months the vision was reduced to  $\frac{3}{60}$ — $\frac{1}{60}$ . The fundus changes were confined to the posterior pole and consisted of very fine, pale yellow-grey dots, with minute pigmented spots between. In places there was some confluence of the spots into larger areas. Nerve and vessels normal. Light sense reduced. No evidence of syphilis or tubercle. Wassermann reaction negative. Urine normal.

J. ALLAN.

**The prevention of myopia in school-children** (*New York Med. Journ.*, 1911, II, p. 237).—W. H. Bates, from observations on many thousands of children examined during a period of eight years, formulates the following conclusions: (1) All school-children did not focus accurately writing on the blackboard, or pictures, maps, persons, or other new or strange distant objects. (2) They became myopic when they did not learn to adjust their eyes properly for distant vision. (3) Myopia was prevented by teaching school-children to focus their eyes accurately for distant objects. (4) The Snellen test-card was found to be the best object to use for exercises in distant vision. It was placed permanently in each class-room where all the pupils could see it from their seats. They were encouraged to read daily the smallest letters they could see, with each eye separately, covering the other eye with the palm of the hand in such a way as to avoid pressure on the eyeball.

J. ALLAN.

**The conservation of vision** (*Western Med. Rev.*, 1911, xvi, p. 414).—Frank S. Owen points out that in the United States there are about 64,000 blind people, and of these about 40 per cent. are cases of preventable blindness. This number is only a small percentage of the people who, though not blind, have defective vision, either as a result of disease or errors of refraction. Some of the causes producing partial or complete blindness and suggested remedies of prevention are discussed. Ophthalmia neonatorum

receives first consideration, and it is pointed out that in certain States it is laid down by law that should one or both eyes of an infant become inflamed, swollen and red, and show unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative or attendant in charge of the child to notify this fact to the health authority. If a physician is in attendance it is incumbent on him to notify. That only deals with cases in which the disease has actually developed—far more important are prophylactic measures. The following recommendations were made by a special committee on ophthalmia neonatorum appointed by the American Medical Association: (1) Legal supervisory control and licensure of midwives by the board of health. (2) The distribution by health boards of circulars of advice to midwives and mothers, giving instructions as to the dangers, methods of infection and prophylaxis of ophthalmia neonatorum. (3) The preparation and distribution by health boards of ampoules or tubes containing the chosen prophylactic with specific instructions for its use. (4) Proper statistical records in hospital work. (5) Reports periodically of the obstetrician's private cases. The author deplores the fact that the medical student does not get much training in refraction, and he advocates compulsory training in this work. There should be medical inspection carried out by those well versed in this work. Hygienic conditions at school, good lighting of the schoolroom, and proper desk and sitting accommodation should be attended to. There should be district nurses to visit and advise in suitable cases, such as phlyctenular and interstitial keratitis, etc.

J. ALLAN.

**Tuberculin in tuberculosis of the eye** (*Finsk. Läk. Handl.*, 1911, LIII, p. 298).—**Jaselius** reports nine cases of tuberculous iritis or keratitis treated by new tuberculin (T.R.) or "endotin," a tuberculin made in St. Petersburg. The patient having shown a temperature not exceeding 98.6° F. for two consecutive days, an injection of  $\frac{1}{10000}$  to 1 mgrm. was given in the back. If no rise of temperature occurred, a double dose was given on the third day; but if there was the slightest rise of temperature, the dose was not increased nor repeated till the temperature had become normal. A repetition of the dose generally caused a greater rise of temperature than the first dose, and, if so, was taken to prove the existence of tuberculosis. If the first small doses caused no rise of temperature, the dose was increased to 5 mgrm. and 10 mgrm.; if 10 mgrm. repeated produced no reaction, it was taken that tuberculosis did not exist. If reaction occurred, small therapeutic doses were given. The initial dose was at first very small to avoid any dissemination of the disease in feeble and scrofulous children, but further experience showed that the larger doses did no harm, and they were used. During the last two years the opsonic index was not taken as a guide, for better results were obtained by the larger doses regardless of the opsonic index.

J. E. BULLOCK.

**Vaccine therapy in eye diseases** (*The Ophthalmoscope*, 1911, ix, p. 818).—**C. W. G. Bryan** considers the vaccine treatment of various diseases of the eye. Amongst them a case of tuberculous interstitial keratitis in a boy, aged 11 years, in whom tuberculin B.E. commencing with a dose of  $\frac{1}{15000}$  mgrm. and increased to  $\frac{1}{4000}$  mgrm. gave excellent results. In phlyctenular ophthalmia the author had good effects from a few doses of  $\frac{1}{15000}$  to  $\frac{1}{10000}$  mgrm. of tuberculin (preparation not mentioned). The error of refraction nearly always present must be corrected.

F. R. B. ATKINSON.

## Reviews.

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INFANT MORTALITY. Second Special Report by Dr. HELEN MACMURCHY, Toronto. Pp. 54.

DR. HELEN MACMURCHY, who is already so well known by her good work on mentally deficient children, has done even better on infantile mortality.

She begins her pamphlet by emphasising the fact that the question is just as much an economic as a medical question. Do away with the present system of capitalism and wage slavery, and infantile mortality would cease to be a pressing matter. She quotes the statistics of Wolf, who shows that 503 out of 1000 babies born to the working classes die before they are a year old, but only 89 among a similar number of wealthy infants.

In Toronto the infantile mortality is a high one—159 per 1000—due in great part to insanitary conditions which would be a disgrace even to manufacturing England. Several photographs of slum property are introduced, and it came as a surprise to the writer of this review when he observed that the larger proportion of these hovels were built of wood, that pail closets were common, and that rubbish was piled up in heaps in unpaved yards. The water service is bad, only one tap being provided for ten houses!

The report goes on to relate what is being done in other countries. The United States are far behind, and at the present time there is no registration of births. The town of Philadelphia has, however, made great efforts, and has established infant clinics associated with twenty-one voluntary visiting agencies and ten modified milk stations. The great increase in the number of infant deaths in the year 1910 did not affect the area where this beneficent work was carried out.

The question of illegitimacy and its fearful mortality are admirably demonstrated. Empress Catherine II of Russia was the first to build foundling hospitals and otherwise to care for children born outside wedlock. New South Wales has established three partly State-supported homes for illegitimate children, one for ailing and two for healthy infants. A certain number of the mothers can also be accommodated in these institutions, and every encouragement is given to them to suckle their babies. The same government has greatly reduced the infantile mortality from tuberculosis by its Dairy Bills and the general infant death-rate in Sydney by appointing a lady inspector and making it compulsory that all foster children should be taken to the Metropolitan Hospital every fortnight. The Huddersfield scheme and the difficulties of its inception are then graphically described. Huddersfield adopted compulsory notification of births as far back as 1906, and immediately on receipt of the notice the mother and her baby are visited by one of two medical women employed by the municipality. Carefully thought out cards on natural and, if unavoidable, on artificial feeding, are given to the parent. Their work is supplemented by voluntary health workers, who visit, and, if necessary, ask for the advice of the lady doctors should no private practitioner be in attendance. The injurious effect of the mother having to work shortly after confinement is emphasised, but it is interesting to learn that Dr. Robertson, of Birmingham, found most deaths among those infants whose mothers did not work. This was due to the fact that the working mothers can afford more and better milk. The question



will probably be settled by compelling the employer of female labour to supply a room in his factory to which the mother can retire at definite intervals and suckle or feed her child. In the intervals the infants would be under the charge of a trained nurse supplied by the municipality.

C. R.

EDUCATION REPORT OF THE MINISTER OF PUBLIC INSTRUCTION, VICTORIA,  
FOR THE YEARS 1909-1910. Pp. 129. Melbourne: J. Kemp. Price  
3s. 9d.

THIS Board controls 2028 schools with a roll of 204,377 pupils. There are in addition 31 centres for manual training and 19 cookery schools, with an average attendance of 2128. Better still, agriculture is practically taught in 400 different schools. These figures speak for themselves, and it is more than creditable that a Board having an attendance-roll slightly less than the whole of Yorkshire can issue so interesting and well-illustrated a report. Even those officials designated by the mysterious letters "H.M.I." have not lost their humanity, and have continued to write entertainingly on education. The duller and least satisfactory portion of the work is that written by the three whole-time medical inspectors, but even here the English authorities have much to learn from Australia. The schedule of inspection is far fuller than that in use in this country, and will eventually result in an interesting report being produced. The importance of training in hygiene, which is defined as the application of all the sciences to the world's needs, and not as the special province of the teetotaler, is emphasised by the demonstration that teachers so taught are of much more help to the inspector and far more helpful in discovering ailing scholars. Again, it is pointed out that anthropometry is not only of scientific interest, but that it also acts as a stimulus to the interest of the parents, and helps the child in his arithmetic if he compares his own weight with that of his fellows, and then converts his avoirdupois into kilos and grammes. With regard to sanitation, the only suggestions of value are that playgrounds should be used out of school hours, and that each child should be compelled to provide a towel and drinking cup for individual use. There is only statistical reference to the defects found on examination, but these have been thoroughly performed, each child being stripped to the waist. Here again the mother country is outstripped by her colonies.

C. R.

ANNUAL REPORT OF THE SCHOOL MEDICAL OFFICER FOR HAMPSHIRE,  
1910.

DR. ROBERT LYSTER, who is the author of the most useful and most readable of the text-books on school hygiene, has written a most interesting report for the year 1910. As school medical officer he has the advantage of the assistance of three gentlemen whose remarks are a proof of their intelligence and interest in their work.

The report deals with the examination of 7885 routine cases, and of a certain number of children who were delicate in mind or body. The first thing that strikes one in the report is the very small number of badly nourished children, and this is the more remarkable as quite half of the families have only three shillings a week per head for each member of the household.

The percentage of verminous children is still very high, 19·6 for the entrants and 21·4 for those about to leave, but there has been distinct improvement since medical inspection started. Cases were first brought before the magistrates by the attendance officers, but as one of these was unsuccessful Dr. Lyster or his assistant medical officers now conduct the prosecutions, and are thus able to cross-examine witnesses appearing for the defendants. A prominent position in the report is given to the subject of clothing and boots, and it is stated that a crusade is being made in favour of clogs, but its success or failure is not mentioned. Excellent advice is given as to the right kind of clothing for boys, but not for girls, a point on which several of the younger celibate inspectors need enlightenment.

Only eight cases of phthisis were found, and it is noteworthy that seven of these were in girls. The number of children suffering from enlarged tonsils and adenoids is also low as compared with other areas.

The number of unvaccinated children has increased to a percentage of 7·8 for entrants and 9·7 for leavers.

Dr. Lyster comments on the friendly attitude of the parents, but also instances managers of schools who love vermin too much to prosecute their carriers, and parents who think that the medical inspectors are paid by the percentage of defects they discover.

Drill is not advocated; the medical officer rightly characterises this Teutonic institution as a bore, and advises instead interesting games. Here, as in so many other areas, the teaching of hygiene is neglected; only 84 out of 200 schools investigated gave any instruction on this subject. One of the medical officers, however, has given informal lectures to the children.

As regards amelioration it is stated that care committees have been formed at some of the schools and are doing well, but so far no school nurses or health visitors have been appointed. Yet Dr. Lyster is able to report that 54·6 of all cases recommended have received treatment—a very remarkable result. The assistant school medical officers prescribe glasses for necessitous children, and the County Council has supplied the spectacles at cost price to 415 scholars.

C. R.

STAFFORDSHIRE COUNTY COUNCIL: ANNUAL REPORT OF THE SCHOOL MEDICAL OFFICER FOR THE YEAR 1910. Pp. 102. Stafford, 1911.

THIS report deals with the thorough examination of 21,814 children, and is written by Dr. Priestley and the four lady assistant medical officers, with a preface and comments by Dr. George Reid. On the whole it is well done, but Dr. Priestley has unfortunately not the gift of presenting his subject in an interesting manner, and several matters of great interest are omitted or dealt with in an arid or unsympathetic fashion. A word of praise is due to Dr. Moffett, who seems the most clinically minded of all the inspectors. She has carefully percussed the thorax in all children submitted to her for examination, and finds patchy dulness in 5·9 per cent. Usually this condition is not associated with other physical signs, but those who present this abnormality are usually thin and anæmic, and it is commoner in boys than in girls.

Rickets has received thorough attention from the same lady; the percentage of its incidence varies from 20–30 of all cases examined—a fact which shows the necessity for a licensing bill for patent foodmongers.

Ringworm receives very minute attention from Dr. Priestley. He concludes that there are 646 cases in Staffordshire: 193 cases were discovered in 94 out of a total of 369 schools, and by constructing a graph and by estimating that cases are cured in six months he arrives at the total figure for the county. But cases are practically never cured in six months by drug treatment; it is contrary to experience to find so few cases in each school, and it must be common knowledge to most medical inspectors that teachers do not show up cases of this disease, so that several infected children will be missed unless there is thorough inspection by the medical staff. Dr. Priestley advises his committee to admit ringworm children to their schools, and to provide them with caps for use during school attendance. In justice to the parents the experience of dermatologists should be sought before this experiment is tried.

Interesting sections follow on teeth and throat conditions, but Dr. Priestley has made little use of his ample opportunities as regards the study of mental deficiency. C. R.

#### ANNUAL REPORT FOR 1910 TO THE RUTLAND COUNTY COUNCIL EDUCATION COMMITTEE.

THE duties of medical officer of health and school doctor were only taken up by Dr. Christopher Rolleston on June the 24th. To have produced this very complete report by January is a striking testimony to his organising ability and energy. The total number of children examined was 918; among these were 113 "special" cases. Out of 503 inquiries Dr. Rolleston obtained a family history of consumption in 68 children; among these 68, one had signs of consumption. All the 113 special children had defects; of the 757 entrants and leavers, 84·7 per cent. had something amiss, only 78 children being found quite free from defects. We must wait for Dr. Rolleston's next report to learn what resulted from the notification of these defects. The experience of other areas will be probably repeated—an infinitesimal proportion of the children will have received treatment. Dr. Rolleston summarises (pp. 77-78) the available methods of obtaining treatment; the difficulty and hopelessness of the task seem overwhelming when one has to regard poor law relief as offering "some solution of the difficult problem of the treatment of school children found to be defective." The recommendations for the prevention of defective vision are timely. Attention is directed to the colour of the walls, to the type and needlework. Professor Karl Pearson and Miss Barrington's views on eyesight are hardly worth referring to; no one takes them seriously unless it be the authors of the memoir. A careful investigation of the mentally defective has been made; the tests of Binet and Simon have been followed, "to a great extent," in estimating the intelligence of these children; among the 3000 children, 25 were found, and having found them, Dr. Rolleston remarks—"It is a difficult question to know what to do with the children." There is no special school in the county, and the education committee have not adopted the Defective and Epileptic Children's Act. He would like these children sent to residential schools. The hygienic conditions of the Rutlandshire schools are fully reviewed and their deficiencies pointed out. This excellent report concludes with some useful advice, notes on the care of the teeth, impetigo, whooping-cough, and measles. The statement (p. 52) that "the *prose* and dyspepsia of Carlyle were (probably) due to uncorrected errors of refraction" is



perhaps an addition to the printer's errors. *Le style c'est la myopie* is, we are aware, an American eye surgeon's rendering of Buffon, but we thought Dr. Gould (who must, then, have excellent eyesight) stood here alone.

M. D. E.

RUTLAND COUNTY COUNCIL. PUBLIC HEALTH REPORT FOR THE YEAR 1910. By CHRISTOPHER ROLLESTON, M.A., M.D.Oxon., M.R.C.P. Lond., D.P.H. Cambridge, County Medical Officer of Health. Leicester: Thornley and Waddington, Printers, Bowling Green Street.

WE have received a copy of the above very interesting report, and have found much pleasure in reading it. It is the first annual report on the public health of the county of Rutland, and this should commend it to all interested in such matters. While primarily of value to the public health worker, the report is by no means without interest to those engaged in pædiatric work.

The infantile mortality rate for 1910 was 78·08, and compared favourably with that of counties in the immediate neighbourhood, but was higher than that of other counties of an agricultural character. Diarrhœal diseases contributed chiefly to this rate, and the author makes some pointed remarks on the causes and means of prevention of diarrhœa. He pleads strongly for the appointment of health visitors, who would call at the homes and instruct mothers, and those about to be mothers, on the methods of preventing this very serious ailment.

In some districts within the county the water supply and means of sewage disposal are far from satisfactory, but the health officials appear to be making strenuous efforts to remedy these defects. An important section in the report deals with the housing accommodation, in the course of which the author gives some details of the powers conferred on the Local Government Board and the County Councils by the Housing and Town Planning Act.

Many statistical tables, including the official ones required by the Local Government Board, are given.

J. A.

E. MERCK'S ANNUAL REPORT, 1910. Vol. XXIV. Darmstadt. July, 1911. Pp. 419.

THIS annual report contains a description of the recent advances in pharmaceutical chemistry and therapeutics, besides two long articles on the cacodylates and their therapeutic uses, and kephir. Those interested in the latest productions of the firm and the latest results connected with the use of older drugs will find in the annual much information. There is a good bibliography, which materially enhances the value of the work.

F. R. B. A.

L'INSEGNAMENTO DELLA PEDIATRIA IN ROMA. By Prof. L. CONCETTI, Rome. 1911. Price 5L.

THIS valuable report contains statistics and records of interesting cases of acute and chronic infections, diseases of the various systems, and new growths observed at the Pædiatric Clinique of the University of Rome during the years 1906 to 1910 inclusive.

J. D. R.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

APRIL, 1912.

No. 100.

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**Original Articles.**

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CONGENITAL DYSCHENZIA.\*

By ARTHUR F. HERTZ, M.A., M.D.Oxon., F.R.C.P.,  
*Assistant Physician to Guy's Hospital.*

OWING to the acute angle formed at the pelvi-rectal flexure, the passage of fæces along the intestines is obstructed at this point. Consequently the pelvic colon becomes filled with fæces from below upwards and the rectum remains empty until immediately before defæcation. The entry of fæces into the rectum gives rise in new-born infants to reflex defæcation, and in older children and adults to the sensation of fulness, which is the natural "call to defæcation." The passage of fæces from the pelvic colon into the rectum is the result of active peristalsis in the former, brought about reflexly by various stimuli, the chief of which is the taking of food into the empty stomach. In my investigations with Mr. H. W. Barber and Mr. K. H. Digby we found that the rectum is insensitive to tactile and chemical stimulation, and that the call to defæcation is a form of muscle-sense, depending upon the distension of the rectum, which occurs as soon as fæces pass beyond the pelvi-rectal flexure (1). If a response is not at once made to the call to defæcation, the desire passes away. This is not due, as has been supposed, to the fæces being carried back into the pelvic colon by anti-peristalsis, but to the

\* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on March the 22nd, 1912.

relaxation of tone, which occurs in the muscular coat of the rectum after it has been subjected to a certain degree of tension for a short period. The call to defæcation only returns after a further quantity of fæces has entered the rectum and produced a rise in the intra-rectal pressure. As I first pointed out in a communication to the Medical Section in February, 1908, all cases of constipation can be divided into two classes: in the first, which may be called *intestinal constipation*, the passage of fæces through the intestines is delayed, whilst defæcation is normal; in the second class, for which I adopted the name *dyschezia*, there is no delay in the arrival of fæces in the pelvic colon, though their final expulsion is not adequately performed. It is extremely important to recognise these two classes of constipation, as their treatment is entirely different: diet, abdominal massage and aperients, which are appropriate for intestinal constipation, are quite useless in dyschezia, attention to the hygiene of the bowels and re-education of the defæcation reflex by means of graduated enemata being the correct treatment.

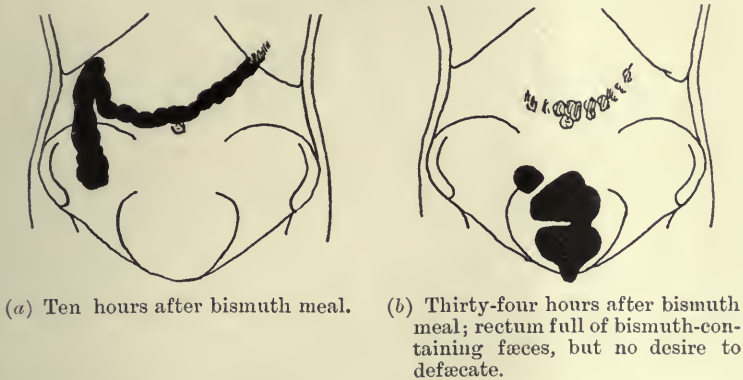
I wish to-day to draw the attention of this Section to a class of dyschezia, which depends upon a congenital deficiency of the muscle-sense of the rectum. In a mild form it is not uncommon in infants, in whom the slight distension produced by the introduction of the finger or a piece of soap into the rectum results in an adequate stimulus. In the majority of cases the muscle-sense develops as the infant grows older, but congenital deficiency is occasionally the starting-point of dyschezia which lasts through life. This is particularly likely to occur if such infants are treated by aperients, which only hasten the passage of fæces through the small and large intestines, where no delay exists, and do not influence the rectum, which is the true seat of the complaint.

The condition can be recognised by making repeated digital examinations, when it is found that the rectum is constantly filled with fæces, even immediately after the bowels have been opened. In many cases the loss of sensibility of the rectum is further shown by the fact that the child does not cry or offer any resistance during rectal examination. Dyschezia should always be suspected in severe cases of constipation in infants and children, when ordinary methods of treatment by diet, aperients and abdominal massage have failed. Thus one of the worst cases I have seen was in a girl, aged 5 years, who was sent to me by a physician to one of the children's hospitals; he had found that treatment in the hospital for thirty-two weeks with laxatives, agar-agar, petroleum and electrical massage produced no improvement, but that glycerine and water enemata caused the



bowels to open. In such cases it is often thought that when treatment suitable for intestinal constipation is given regularly, whilst enemata are given once or twice a week, the former prepares the way for the latter by hastening the arrival of the fæces in the rectum. As a matter of fact, the special diet, drugs and massage are quite unnecessary, for the natural action of the bowels is generally sufficient to bring the fæces to the rectum, the enemata acting just as well without any additional treatment. In the case just referred to a slow but steady improvement has resulted from the daily use of glycerine enemata, graduated in the manner to be described presently, no other treatment being employed. In mild cases the bowels may open when aperients are given alone, as fluid fæces enter into the anal canal, which may retain its tactile sensibility and so may be the

FIG. 1.—CONGENITAL DYSCHEZIA.



starting-point of the defæcation reflex. Such treatment, however, is very undesirable, because the bowels only act when the stools are fluid, much water and nutrient material being consequently lost. In doubtful cases an X-ray examination is helpful, and it was by this means that I learnt to recognise the condition. Between half an ounce and two ounces of bismuth oxychloride, according to the age of the child, are given in milk or porridge, the bowels having previously been emptied by means of enemata. Dr. H. Semon, in an unpublished investigation carried out at my suggestion, found that the rate of passage through the intestines in infants is about the same as that of adults, four hours being required to reach the cæcum, six the hepatic flexure, ten the splenic flexure and twelve the pelvic colon. In congenital dyschezia the pelvic colon is reached in the normal time, and in twenty-four hours almost all the bismuth is

collected in the distended rectum. This is well seen in Fig. 1, which is reproduced from tracings taken from the case of a girl, aged 8 years, who had suffered from extreme constipation from birth, and had been drinking an infusion of twenty to thirty senna pods every night.

The dyschæzia soon leads to secondary retention of fæces in the pelvic colon, and in severe cases in still higher parts of the large intestine, as, unless enemata are given, the rectum is never empty, and in spite of its dilated condition there is insufficient room for all the retained fæces. The irritation caused by the retained fæces is likely to give rise to catarrhal colitis, and in the girl of eight with congenital dyschezia, to whom I have already referred, retention occurred as far back as the cæcum, giving rise during the last four years to repeated attacks of typhlitis, with pain, tenderness, vomiting and pyrexia, which were at first diagnosed as appendicitis and were only recognised to be something different, when five further attacks occurred after the removal of the appendix eighteen months ago. X-ray examination after the colon had been emptied showed that there was no delay in the passage of fæces as far as the rectum, but that severe dyschezia was present.

*Treatment.*—The child should take an ordinary diet, and neither aperients nor abdominal massage are required. When the stools are so hard that defæcation is rendered painful and difficult, a little liquid paraffin should at first be given. He should sit on a chamber for at least ten minutes every morning after breakfast and try to open his bowels, whether he feels the desire or not. If the attempt fails, as it probably will for some time, he should be given either a water or glycerine enema, after which he should repeat the attempt in the same position. In the majority of cases treatment by glycerine enemata is most effective. One ounce of glycerine is given the first day; the next day half a drachm of the glycerine is replaced by water; the third day one drachm, and so on, the glycerine being made more and more dilute until finally it is all replaced by water, which can then be also dispensed with. In some cases water enemata act better. One ounce is required for a new-born infant, six ounces for children a year old, and a pint for children of eight. It should be introduced from a funnel at a pressure not greater than eighteen inches through a tube inserted no further than just beyond the anal canal. The amount used is reduced by one twentieth part at a time until no more is required. In many cases the substitution of glycerine by water and the diminution in the amount of water used must be very slow and may

have to be prolonged over weeks or even months. I believe, however, that in all cases in children a cure eventually results, but if the condition is allowed to continue until adult life it may, in rare instances, be necessary to use enemata permanently. If the injection is given under low pressure and the glycerine is as dilute as possible and as little water used as possible, the enemata never lose their effect.

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## HEREDITARY SYPHILIS AND ITS TREATMENT BY ARSENOBENZOL ("606").

By J. L. BUNCH, M.D., D.Sc., M.R.C.P.,

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THE recorded cases of hereditary syphilis treated with arsenobenzol are few in number, and, in England, very few. This is not, however, because the older methods of treating the disease have been so successful, for a glance at any reliable table of statistics will show how extremely fatal a disease hereditary syphilis has always been. For instance, the mortality in hereditary syphilis is well shown by the records of nearly two thousand syphilitic pregnancies collected by Hyde. Of these pregnancies, abortions and stillbirths accounted for 30 per cent. ; during the first twelve months roughly 60 per cent. died, and rather less than 10 per cent. survived the first year. Of these survivors the majority were breast-fed babies, and it has been estimated that as many as 99 per cent. of artificially reared syphilitic infants die within the first twelve months. The effect of syphilis on the birth-rate cannot be better exemplified than by these records, where, out of 1700 pregnancies, 1535 resulted either in abortion or death before the end of the first year.

Hereditary syphilis is, moreover, responsible not only for lack of vitality, but also for a greatly increased diminution of resistance to disease and a marked incapacity to recover from its effects. Dr. Bennie, honorary physician to the Children's Hospital, Melbourne, basing his statistics on twenty-five years' experience and a quarter of a million attendances or visits, says that fully 30 per cent. of all the morbidity in the hospital was caused by syphilis, and that the



syphilitic factor was present in over 40 per cent. of the children who died. The chances of a heredo-syphilitic dying under fifteen years of age are nearly seven times greater than of the child free from syphilis. As an evidence of lowered resistance occasioned by hereditary syphilis, his careful analysis of all cases of infectious diseases in children shows that, excluding widespread epidemics, the chances of a syphilitic getting typhoid fever are nearly two and a half times as great as for a non-syphilitic; for scarlet fever three times; for measles two and a half times; for diphtheria nearly seven times. Again, syphilis lowers not only the general, but also local resistance. Thirty per cent. of the children with tuberculous hip disease were congenital syphilitics, and 60 per cent. of the cases of tuberculous meningitis. Of the prejudicial effects of hereditary syphilis in later life and the constitutional and local symptoms produced by late heredo-syphilis every physician has had sad experience. The beneficial effect of mercury in many cases is undoubted, and I am not going to argue now whether mercury is or is not capable of curing, as opposed to rendering latent, syphilitic disease, congenital or acquired, but statistics such as the above are eloquent witness to the fact that some additional remedy is badly needed in the treatment of hereditary syphilis.

In the first cases of hereditary syphilis in infants which I treated with salvarsan, the drug was injected intra-muscularly, and the result was good, but not so good as when, later, it was injected intra-venously. At one time it seemed possible that the injection of the mother while she was suckling the child might indirectly benefit the infant, and perhaps bring about its cure, but the published records of cases treated in this way show that little, if any, benefit is derived from such treatment. Some cases have recently been recorded by Jeanselme which show that the effects of maternal injections on the deeper or visceral lesions of hereditary syphilis are distinctly unfavourable. They aggravate the disease and sometimes kill the child. In four cases under his personal observation the injection of the mother with salvarsan was followed by absolutely bad effects in the infant; in one case no effect was produced, and in the fourth the symptoms at first diminished, only to reappear, accompanied by a general rash, coryza, and rhagades. Sixteen cases were tabulated, of which ten were admittedly failures, and of the remaining six the after-histories were not always satisfactory or convincing.

An example of treatment by intra-muscular injection of "606" is the following case, which I showed at the Children's Section of the Royal Society of Medicine. A boy, aged 14 weeks, was admitted on

January the 2nd, 1911, under my care at the Queen's Hospital for Children, suffering from hereditary lues. When three weeks old he developed a running from the nose, which increased until the nostrils became swollen and a profuse muco-purulent rhinitis was present. A papular eruption also showed itself on the buttocks, thighs, soles of the feet, neck and face. Mucous tubercles appeared round the arms and at the angles of the mouth, and in these Dr. Woodforde, pathologist to the hospital, found large numbers of the *Spirochaeta pallida*.

When admitted to the hospital the child showed evidences of malnutrition, and the bridge of the nose was depressed. His weight was 4 kilos. He had not been given mercury in any form. The child was fed on the breast, and it was arranged that his mother should come to the hospital several times a day to suckle him.

On January the 4th a dose of 0.04 grm. of freshly prepared salvarsan was given by me intra-muscularly in the scapular region. The dose was, therefore, one of 0.01 grm. per kilo of body-weight. On the 5th the temperature rose to 100° F., there was a well-marked hard swelling round the point of injection, but the mucous tubercles seemed to be drying up and the discharge from the eyes was less. The snuffles, however, showed no change.

The child improved considerably from day to day, and by the 19th the mucous tubercles, both round the anus and the mouth, had quite gone, and the snuffles were cured. The skin was clear, except for some mottling and discoloration at the site of the previous lesions.

Four days after this the child unfortunately developed measles, and went through a typical attack in the isolation ward. By February the 3rd the temperature was again normal, and the patient apparently in good health except for a slight cough, but the induration round the point of injection in the subscapular region had not disappeared. The child had put on more than a pound in weight during his stay in hospital. On the 8th, however, some fresh mucous tubercles made their appearance, and a muco-purulent rhinitis again showed itself. It now became a question whether to give a second dose of salvarsan, but, inasmuch as the beneficial effects of the first dose had apparently become exhausted at the end of five weeks, I hardly thought such a course justifiable. I therefore, on the 10th, put the patient on daily inunctions of ung. hydrarg., and at the end of a week the recurrent syphilitic symptoms had disappeared and the child was sent home. On March the 29th the child, although free from syphilitic symptoms, still gave a positive

Wassermann reaction. He has remained free from any symptoms of syphilis for the past twelve months.

Another child, six months old, with hereditary syphilis, whom I injected from the same tube of salvarsan on the same day with a dose of 0.05 grm., developed a temperature of 103.8° F. two days later, while an eye case of Mr. Sydney Stephenson's—a girl with interstitial keratitis, aged 10 years—also injected from the same tube on the same day in the gluteal region, showed but little reaction, and her temperature did not rise above 99° F.

While the intra-muscular injection of salvarsan has a well-marked beneficial effect in clearing up the active symptoms of hereditary syphilis, the reappearance of similar symptoms a few weeks after injection obviously necessitates the employment of more than one such injection, or the supplementing of such injection by some other drug, as in the case quoted above. More successful results can, however, be obtained by the injection of salvarsan intra-venously.

The following is one of the youngest, if not the youngest, case on record of the successful intra-venous injection of salvarsan, with resulting cure of hereditary syphilis. The case was shown at the Royal Society of Medicine meeting on November the 24th, 1911. For notes of the case I am indebted to Dr. Perry, Resident Medical Officer.

The patient was a male, aged 8 weeks, who was admitted to the Queen's Hospital for Children with an eruption which had been present for four or five weeks. The child presented a thin, wasted appearance, with an old and shrivelled look, and had well-marked snuffles. The skin was of a brownish-yellow tint and was partly covered with a maculo-papular eruption, especially well marked in the genito-crural region and on the buttocks. The macular element was well defined and the papules were flattish. The eruption was of a pinkish-brown tint, and was present not only on the face and trunk, but also on the palms and soles. In addition there were numerous superficial ulcers, especially on the trunk and thighs, the muco-purulent discharge from which was so offensive as to make the ward objectionable to other patients. There were fissures at the angles of the mouth and some moist papules both here and round the anus. The weight was 10 lb. The case could not, perhaps, be said to be a hopeless one, but the child was at least extremely ill.

The Wassermann reaction was positive and the *Spirochæta pallida* was found in the skin lesions.

On June the 21st, 1911, a few days after the patient had been admitted to hospital, no mercury having been administered at any time, a dose of 0.03 grm. arsenobenzol was injected by me into the



basilic vein. The dose was, therefore, about one centigramme salvarsan for each kilo of body-weight.

On June the 24th the coppery eruption had greatly diminished in intensity, and the ulcerated, foul-smelling lesions were much cleaner. The child's general condition was much more satisfactory. The skin lesions continued to improve, the ulcers began to granulate up during the succeeding week, and the patient was evidently better in every way. On June the 30th a further dose of salvarsan was given, but this time intra-muscularly into the glutei. The temperature rose after this injection to  $100.2^{\circ}$  F., but the child's general health still continued to improve, he put on weight rapidly, and by July the 7th all syphilitic symptoms had disappeared and he was allowed to return home. The Wassermann test was then negative.

The child has attended my out-patient's department regularly since then, and when seen at the beginning of March was still free from all symptoms and appeared strong and healthy.

Here, then, we have a child, who, judging by appearances, was bound to die within a very short time, not only rescued from death, but also cured of its disease and become more healthy than at any previous moment of its life. And this by only two doses of a drug which caused no unpleasant symptoms and was followed by no bad after-effects. Successful cases such as this are very encouraging, and lead us to hope that in suitable conditions we have in salvarsan a drug which is capable of rendering the greatest service in the treatment of hereditary syphilis. It is impossible, as yet, to discuss the cure of syphilis by "606," as distinguished from the alleviation of symptoms, since no case has been under treatment for a sufficiently long time to make sure that a recurrence will not occur, and the mere fact that the Wassermann reaction remains negative for a year or two after treatment is no proof of cure, for the full significance of this reaction has not yet been worked out.

Wechselmann reported that out of 268 cases treated by salvarsan, the Wassermann reaction became negative in 153 in a period of four to five weeks. Schreiber and Hoppe found a negative reaction in 85 per cent. of their patients within seven weeks of injection. Neisser found a negative reaction in 44 per cent. of his cases within four weeks of injection. Zeiler, however, in observations on patients for as long as ten to fifteen weeks, found that they did not show permanent negative reactions. In the majority of cases, however, after an injection of salvarsan the Wassermann reaction becomes negative, to become positive again later in some cases.

Results like Lesser's are somewhat hard to understand, for in

300 cases he found a negative reaction in more than one half of the men within five weeks, but only in a few of the women. Again, an injection of salvarsan may convert a previously negative serum into a positive one. This seems to be explicable on the theory that a dose not large enough to kill the spirochætae stimulates them to increased activity and so to the production of the immune body which is found in positive sera. When the treponemes are destroyed it is, on the other hand, an anti-endotoxin which is produced. For the present, however, at any rate, we seem justified in considering that the presence of a positive Wassermann indicates an active syphilitic focus and the necessity for treatment, while a negative Wassermann is not conclusive one way or another.

We have not, as yet, a sufficient number of cases of syphilis, chiefly virulent syphilis, in which it has been necessary to give six, seven or eight injections of salvarsan, on which to base conclusions, but there is no reason to think that the drug produces any anaphylaxis, or that moderate doses may not be repeated seven or eight times when the symptoms are resistant. It has yet to be determined how far the first or second dose causes any immunity against the action of the drug. In babies, however, it is rare to need more than two injections of salvarsan, and, in the case reported above, after the first intra-venous injection a second intra-muscular injection was given. Thus, after the first rapid action of the drug, an additional store is introduced which can be gradually drawn upon over a considerable period and so supplement the beneficial action of the initial dose.

My present view is, however, in favour of additional treatment by mercury after the first or second dose of "606," and I am of opinion that it is by such means that we shall avoid the possibility of late recurrences. In salvarsan we have a drug which at least has wonderful powers of rapidly curing syphilitic symptoms, and, when combined with mercury, of curing the disease in the shortest time at present possible.

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## PURPURA FULMINANS AS A SEQUELA OF SCARLET FEVER.

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PURPURA fulminans is not only one of the rarest diseases met with, but, as C. Elliott has well described it, presents also an impressive and dramatic picture of rapid change in the functions of

the body, which one may see with one's own eyes marching irresistibly in a short space of time from health to death.

The following case may be classified, according to Osler, as one of the infectious purpuras, or it may be a distinct clinical entity, the aetiology of which is unknown.

The patient, a boy, aged 5 years, was admitted to the Grove Fever Hospital on December the 12th, 1911, with a history of sore throat on November the 29th and of a rash all over the body on December the 1st. On examination he presented well-marked desquamation of the trunk and limbs, which at once suggested scarlet fever. The fauces were injected, the tonsils slightly enlarged, and the sub-

FIG. 1.



maxillary lymph-glands palpable. He was fairly well nourished, and had always been quite healthy except for an attack of whooping-cough in infancy. There was no sepsis about the mouth. The heart was sound. During the next four days he appeared to be quite well, and was able to take full diet. On December the 17th, however, he vomited some greenish fluid just before dinner, and did not seem very well in the afternoon. During the night his sleep was fitful. About 4 a.m. on December the 18th a dark-coloured mark like a bruise showed itself on the left buttock, and others soon appeared on the left thigh and leg, and later on the leg and thigh of the right side. By 9 a.m. the boy looked ill, and his face and lips had become quite pallid. The pulse-rate had risen to 140 and the respirations were 28. The left buttock and lower limbs now presented several ecchymotic areas of a dark purplish colour, the advancing edges being reddish-black and sharply demarcated. The areas were raised above the surrounding skin, felt warm, and imparted a sense of want of elasticity to the palpating fingers.



There was no paræsthesia nor hyperæsthesia. The larger areas developed in rings (*vide* photograph taken at 2 p.m.) with a central area of apparently healthy skin, which gradually became encroached upon, till ultimately, at 7 p.m., the whole presented one great black patch. Four hours later the patches had not increased in size, but the skin of the unaffected parts of the body had become very pallid with the yellow tint and the waxen hue of grave anæmia. The left foot and leg were now considerably swollen, and the pulse had become very feeble. During the night the patient was very restless, although the mind remained clear till the end, which occurred at 5 a.m. next morning, twenty-five hours after the first appearance of the ecchymoses. On the 18th the urine, hitherto clear, contained a cloud of albumin but no blood, and no blood appeared from any of the other mucous surfaces.

At the autopsy, made four and a half hours after death, six ecchymotic patches were found:

- (1) A large patch on the left buttock.
- (2) A large patch on the antero-external region of the left thigh.
- (3) A large patch on the posterior aspect of the left leg from the middle of the calf to the tendo Achillis.
- (4) A patch over the left shin above the ankle.
- (5) A patch on the right leg behind and above the internal malleolus.
- (6) A small patch on the upper and posterior part of the right thigh.

The ecchymoses extended to the deep fascia covering the muscles. All the internal organs were markedly pale. There was no clot in the heart chambers, the blood being thin and fluid. No hæmorrhages were found in the supra-renals, the brain, nor in any other organ. There was, however, a small extravasation of blood into the connective tissue around the outer aspect of the left kidney.

Cultures on agar and in broth from the heart chambers and from the ecchymotic tissue remained sterile.

Throat cultures contained no diphtheria bacilli. Microscopical sections of the liver and kidney showed nothing abnormal.

The blood-count made ten hours after the appearance of the ecchymosis revealed the following: Hæmoglobin, 65 per cent.; red cells, 3,670,000; numerous microcytes, slight poikilocytosis, no normoblasts; white cells, 15,700. Differential count: Polymorphonuclears, 86 per cent.; small lymphocytes, 7 per cent.; large mononuclears, 4 per cent.; eosinophiles, 5 per cent.; myelocytes, 2.5 per cent.; mast cells, 0.

The blood-platelets were not increased.

The present case corresponds almost exactly to C. Elliott's case, and also to one reported by J. D. Rolleston and myself in February, 1910. In the first case scarlet fever had reached its twenty-second day. In the latter case the pre-existence of scarlet fever was suggested by some desquamation of the trunk, submaxillary adenitis, and a history of sore throat, headache and vomiting ten days prior to the appearance of the ecchymoses. In the present case there was not the slightest doubt that the patient was in the second week of an attack of scarlet fever. The desquamation was well marked and the history of sore throat and rash corresponded. Moreover, on December the 13th a sister was admitted to the Grove Hospital with well-marked rash, tonsillar exudate, and inflamed fauces, and on December the 14th another sister was admitted with a rather severe attack of scarlet fever with bright rash and ulceration of the fauces. Both sisters desquamated well.

Of sixty-four cases of purpura fulminans published up to the present, including a case recently recorded by Elliott and Martland, and one by Weill and Mouriquand, seventeen have followed scarlet fever, the ecchymoses occurring usually in the second, third, or fourth weeks of the disease.

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### A FAMILY WITH MEMBRANOUS DISCHARGE FROM THE NOSE.\*

By A. M. GOSSAGE, M.D., F.R.C.P.,

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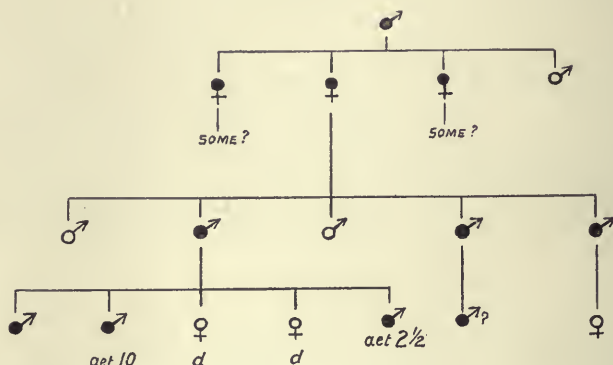
FIBRINOUS rhinitis is not very uncommon in children. According to Lambert Lack (3) it is commonest in early childhood and is ushered in by slight malaise, which is not sufficient to cause the child to lie up, and only lasts for a day or two. There is a nasal discharge, associated with fibrinous or membranous exudation on the nasal

\* A paper read before the Clinical Section of the Royal Society of Medicine on March the 8th, 1912.

mucoous membrane, which persists for six to eight weeks, and then clears up, leaving no sequelæ. In nearly all the cases bacilli indistinguishable from the Klebs-Loeffler bacillus can be found, but although the disease is infectious, it does not seem to give rise to true clinical diphtheria. True diphtheria, of course, invades the nostrils not infrequently and gives rise to a severe illness, with formation of membrane in the nose.

A further type of membranous formation in the nose has been described by Baumgarten (1). A strong baby girl was noticed from birth to have crusts about the nose. With a probe and wool a long, thin tube, like parchment, could be obtained from the nostrils, which

FIG. 1.



took three to four days to re-form. At the age of three years a bad smell was noticed, and after four years typical ozæna developed. When the child was two months old the nose was washed out with iodo-glycerine, and after this no more tubes were formed, but occasionally there were slight crusts; later even these disappeared. The mother suffered from ozæna, but there was no other abnormality in the family; twin sister was quite normal. Baumgarten further states that he has met with two other similar cases: tube formation in early infancy and development of ozæna about the fifth year of life. He considers that ozæna is frequently inherited chiefly from mother to daughter, and is much commoner in women.

I have recently come across a remarkable family, several members of which have a persistent membranous discharge from the nose. The condition is first noticed at birth, and apparently persists throughout life. It causes no impairment of health, the bronchitis from which the first member I saw was suffering being probably an acci-



dental concomitant. There is only very slight discomfort, though there is a tendency to the development of a bad smell if the nostrils are not kept clear. In no case, however, is there any sign of ozæna. Specimens of the discharge, which usually took about twelve hours to re-form, were obtained from the father and two of the children, and in all cases were found to be a more or less complete fibrinous cast of the nostrils. Dr. Ross, the pathologist at the East London Hospital for Children, kindly examined the discharge for me, and reported as follows: Film preparations showed polymorphonuclear cells embedded in a network of fibrinous matter. The organisms present were bacilli, diplococci, and short diplobacilli; no evidence of *Bacillus diphtheriæ* or *Bacillus ærosus*. Attempts to embed in paraffin and cut sections failed owing to the friability of the material.

One of the boys was taken into the hospital for twenty-four hours, but, unfortunately, had no discharge during that time. The nostrils were examined on several occasions, and nothing abnormal could be seen except once, when some fibrinous exudation was found over one lower turbinate bone.

In the appended genealogical tree the affected individuals are black and the normal white. It can be seen that at least four generations have been affected, and that males and females are attacked equally. Of the children of affected persons with normal mates, roughly half are affected and half normal. This suggests that the inheritance affords another example of Mendelism in human beings, and that the abnormal condition is dominant to the normal (2). Unfortunately there is no record of any offspring from the normal members of the family, so that it is impossible to say whether all their children are normal, as would be expected.

It is a matter of great interest to find a fibrinous exudation on a mucous membrane resulting from a congenital abnormality and not from some infective inflammatory process. I have not been able to find any record of a similar condition in medical literature.

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A CASE OF MEDIAN DERMOID CYST OF THE NOSE.

By MACLEOD YEARSLEY, F.R.C.S.,  
*Senior Surgeon to the Royal Ear Hospital, etc.*

THE recent publication, by Howell Evans (BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, viii, p. 535), of a short paper on "Median

FIG 1.



Congenital Fissures, Fistulæ and Dermoid Cysts of the Nose," in which Fig. 2 represents a case of median nasal dermoid very like a case operated upon by me in 1911, renders the latter doubly interesting.

The patient, a girl, aged 5 years, presented herself at the Royal Ear Hospital in May, 1911, with a swelling in the median line of the nose, which had been first noticed two years earlier and was said to be increasing in size. It is well shown in the accompanying photograph, in which the dotted outline shows the extent of the cyst. It measured one inch, by three-quarters of an inch in its widest part, and was soft and elastic to the touch, with a feeling of boggiess on pressure. There was no sign of any fistula in the neighbourhood.

On May the 12th the patient was anæsthetised and the cyst was removed through a median incision. On dissecting it out, it was

found to be attached to the nasal bones close to their junction with the lateral cartilages. It contained a greyish, putty-like material and was lined with fine white hairs. The wound was drawn together by two fine horse-hair stitches and quickly healed.

On section the cyst wall showed a lining of skin with hair-follicles and sebaceous glands.

## London and Provincial Societies.

### ROYAL SOCIETY OF MEDICINE.

#### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Friday, February the 23rd, 1912.*

Dr. G. A. SUTHERLAND, *President, in the Chair.*

**Paralysis of the Muscles of the Neck (? Poliomyelitis).**—Dr. R. HUTCHISON.—Boy, aged  $2\frac{1}{2}$  years. Admitted to the London Hospital on October the 28th, 1911. Ten days before admission had "feverish attack," and both ears discharged. Weakness of neck noticed since. Was in hospital six weeks before that for pneumonia. On admission was no more able to hold up his head than a newly born baby. Paralysis seemed to involve both sterno-mastoids, both trapezii, and retrocollic muscles. It was more marked on the left side. No other muscles affected. Radiogram of spine negative.

On February the 6th, 1912, there was imperfect R.D. in the trapezii and sterno-mastoids. Other muscles could not be satisfactorily tested. The paralysis is now much less marked than when the patient first came under observation.

The consensus of opinion was that it was a case of poliomyelitis.

**Hysterical Vomiting; Achylia.**—Dr. R. HUTCHISON.—Girl, aged 10 years. About two years ago patient's mother died suddenly. Vomiting set in immediately after this event, and continued in spite of treatment in two hospitals until she came under observation three months ago. She was then much emaciated (weight  $1\frac{1}{2}$  st.), the skin dry, brown, and scaly. No visceral disease. Bowels somewhat loose. Test-meal showed complete achylia.

Under treatment by isolation, suggestion, and the use of hydrochloric acid and pepsin, the vomiting has entirely ceased, but the nutrition has not much improved.

**Green Teeth, subsequent to a Prolonged Jaundice in the First Weeks of Life.**—Dr. H. THURSFIELD.—The boy was first seen at the age of three weeks. He had been jaundiced from birth, or possibly from the third day of life only, and during the first week he had passed very black stools, and had a purulent discharge from the navel. When seen the umbilicus



was perfectly healthy; the liver and spleen were not enlarged, and the child, though small—6 lb. 5 oz.—seemed quite healthy. The jaundice was at this time deep, and remained so for the next seven weeks, slowly disappearing. When it had gone the boy put on weight rapidly, and at four months of age weighed 9 lb. He was not seen again till he was nine months old, when he was brought again for an attack of diarrhoea. The two lower central incisors were then a vivid yellow tint, which has become now green. The tint varies considerably; is occasionally quite bright, at other times dull.

**Anomalous Jaundice, with Enlargement of Liver and Spleen, and Bile-stained Teeth.**—Dr. F. LANGMEAD.—C. M.—, aged 1 year and 9 months. Jaundice began between two and three weeks after birth and persisted until the baby was 1 year and 3 months old. It gradually increased for the first two months of life, and the baby remained deeply jaundiced for twelve months. When first seen it was three weeks old. The liver was definitely enlarged, and the spleen reached down nearly to the umbilicus. The urine was bile-stained. The child's general condition was good. There was nothing to suggest syphilis. It was conjectured that congenital atresia of the bile-ducts was present, since the jaundice started when the child was about two weeks old, and was steadily deepening. However, acting on the principle that a syphilitic icterus was the only variety which was remediable, grey powder was administered. The liver and spleen both subsided rapidly and were not enlarged after about one month's treatment. The jaundice persisted, and was accompanied by hæmorrhage from the bowel and stomach and beneath the skin. The first tooth erupted when the baby was one year old, and four were visible when the jaundice disappeared at fifteen months. All were bright yellow in colour, obviously pigmented by bile. Since then, each tooth as it has erupted has proved to be jaundiced. The yellow colour in them began to change to green about three months ago, and now the coloration has almost gone. Wassermann's reaction was not tested for.

It is not generally recognised that jaundice may affect non-erupted and erupting teeth; perhaps, like the pigmentation of brain and cord which Schmorl has described, it is peculiar to icterus neonatorum.

**Athetoid Movements.**—Dr. JAMES TAYLOR.—A girl, aged 5½ years. Seventh child; the first two died a few hours after birth; third, fourth, fifth, and sixth alive and well. Patient born at full term; was born "feet first," and was "black and blue" when born. Never walked or crept even. At the age of two years movements of head and hands and also of feet noticed. Now she speaks badly (she never spoke well), but her intelligence is fair. She has involuntary athetoid movements of hands, also of head; legs are stiff. The reflexes are difficult to obtain on account of the rigidity, but the knee-jerks are present and the plantars are flexor.

**Transposition of a Viscera in a Girl, aged 12 years.**—Dr. L. GUTHRIE.—The patient has complained of shortness of breath which prevents her from taking part in school games. She is fairly well developed, and has had no serious illness. The heart as seen in skiagram is displaced to the right side; the apex is in the sixth space an inch inside and below the right nipple. A faint systolic bruit is heard at the base. Hepatic dulness is absent on the right side, but can be made out on the left side from the level of the sixth rib downwards. Stomach resonance is well defined in the right

hypochondriac region. The spleen is not palpable. There are no signs of pulmonary disease, past or present. The case is regarded as one of primary dextrocardia with transposition of viscera. Cyanosis is absent, and the finger-tips are not clubbed.

**Case of Unusual Cardiac Bruit.**—Dr. J. A. TORRENS.—Girl, aged 16 years, was admitted to hospital for influenza, when the cardiac murmur was discovered. No history of rheumatism, nor of any cardiac disability at any time. Well-developed girl; no cyanosis, clubbing of fingers, or dyspnoea. The heart is not enlarged to percussion, but the X rays show a globular left ventricle of greater density than normal, suggesting some pure hypertrophy. The action is forcible and regular. There is a loud systolic murmur at the base, best heard over the aortic area, conducted up into the arteries of the neck, but audible over the entire thorax, back and front. On the back the murmur is loudest opposite the third dorsal spine, two inches from the middle line on the left side. The murmur is weakest at the apex of the heart. The second sound is everywhere quite distinct, and there is no diastolic murmur. The pulse, though not collapsing, is not particularly well sustained.

There was a difference of opinion expressed as to whether the case was a congenital or an acquired aortic stenosis.

**Arthritis of the Shoulder and Hip (? Tuberculous).**—Dr. T. R. WHIPHAM.—Boy, aged 14 years. When three years old he was held up by the arms, and after that his right shoulder "grew out" and the arm could not be raised above the horizontal level. Wasting of the shoulder muscles occurred, but nothing further was noticed until nine months ago, when he started walking lame on the left leg. There was pain in the left hip and knee at first but this seems to have subsided, and the patient has at no time been prevented from doing his work as house-boy. The right shoulder-joint is completely ankylosed and the muscles of the shoulder girdle and arm are much wasted. There is no reaction of degeneration, and sensation is perfect. A skiagram shows complete absorption of the head of the humerus with displacement of the end of the shaft under the tip of the coracoid process of the scapula. The pelvis is elevated on the left side, and the great trochanter of the femur is more prominent and at a higher level than on the right. The movement in the joint is considerably limited and there is evident shortening of the limb. The glutei and leg muscles are definitely wasted. A skiagram shows complete absorption of the head of the femur and elevation of the rest of the bone. No abnormalities in other joints can be seen by means of the X rays. Lately the patient has become somewhat deaf. There is discharge from both ears and the left tympanum is perforated; the septum nasi is deflected to the left and adenoids are present to a slight degree. There are no symptoms or signs of tuberculosis in the chest, and Von Pirquet's reaction is negative. There is a history of pulmonary tuberculosis in the mother, who died at the age of thirty-six years. Five brothers or sisters died in infancy, but four others are alive and well.

The joint lesions were regarded by members as tuberculous.

**Proliferative Osteo-arthritis of the Hip in a Youth.**—Dr. T. R. WHIPHAM.—A year ago, at the age of 17 years, the patient began to experience pain in the left groin when walking. At first it was of the nature of a "pin-prick," but subsequently it has become more marked; it is only present

when the joint is exercised. The patient walks with a limp on the left leg, which is  $\frac{1}{8}$  in. to  $\frac{3}{4}$  in. shorter than its fellow. The glutei and leg muscles are wasted and the greater trochanter of the femur is very prominent. In the hip-joint the movements of flexion and abduction are limited, and on rotation the greater trochanter approximates to the anterior superior spine of the ilium, indicating a certain degree of coxa vara. The movements are accompanied by creaking of the joint. A skiagram shows extensive proliferation and lipping of the bones at the hip, together with a thickening of the neck of the femur and a reduction of the angle which it makes with the shaft.

The case was regarded by some as an infective arthritis, and the condition of the teeth was commented upon as being a possible source for the infection.

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## BRITISH MEDICAL ASSOCIATION.

### BIRMINGHAM BRANCH.

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*Friday, October the 27th, 1911.*

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**Case of Transposition of Viscera.**—Dr. ROSE JORDAN showed a boy, aged just over 13 years, and who came under her notice in the course of the routine medical inspection of those children about to leave school. The schoolmaster, in presenting him for examination, mentioned that he had several times fainted in school, and that he was said to have a displaced heart. Both on this occasion and on a subsequent occasion when examined he gave ocular demonstration of his liability to faint.

*History.*—Nothing unusual was noticed about him until he was three months old, when he swooned away one evening and had to fight for his breath. He was seen by two doctors, who did not expect him to live through the night, and who told the mother it was best for him to die, as he could never be strong. He, however, recovered from this attack. From that time until the age of seven he frequently fainted, and sometimes fell into trances, during which he was occasionally unconscious for twenty-four hours. He was always very nervous, and often almost jumped out of bed during sleep. Before the age of seven he contracted measles, chickenpox, and whooping-cough—the latter very badly. Since the age of seven, though still nervous and prone to faint, his general condition had steadily improved.

*Circulatory system.*—Pulse 72, slightly irregular. Heart's apex-beat visible in the fifth space on the right side, half an inch internal to the mid-clavicular line. Area of dulness reaches from third right space above to apex-beat on right and to mid-sternum on left. The first sound at the apex is rough, and is followed by a short systolic murmur; in the third right space, in this case presumably the area of the pulmonary valve, a rough, short, systolic murmur is also heard. At the left base the heart-sounds are apparently normal.

*Abdomen.*—Liver dulness on the left side, reaching from the sixth space in the mid-clavicular line above to the costal margin below. As far as can be ascertained the spleen and stomach are situated on the right side, opposite to the positions they would normally occupy. The boy is right-handed, and there is one brother, aged 12 years, who is quite normal.



*January the 11th, 1912.*

**Excision of the Spleen.**—Mr. LEEDHAM-GREEN showed a boy from whom he had excised the spleen in April, 1911. The boy had fallen while getting out of a moving train between the platform and the train, with the result that he sustained a compound fracture of the femur, fractures of some of the left ribs with laceration of the lung, and rupture of the spleen. The leg was amputated and the spleen excised. Acute pneumonia followed the accident, but the boy, after a long illness, eventually recovered. When shown, he was in good health and seemed none the worse for the loss of the spleen. He was not anæmic or short of breath, and the blood was normal as regards the red and white cells, and the hæmoglobin was over 80 per cent.

### BIRMINGHAM UNIVERSITY MEDICAL SOCIETY.

*November the 8th, 1911.*

**Sarcoma of Naso-pharynx.**—Mr. S. G. BILLINGTON.—Girl, aged 13 years. In March, 1911, a lump was noticed in the right side of the neck. This apparently subsided in a few days, but reappeared on May the 2nd, and has gradually become larger since. In August nasal obstruction developed, and has continued since. In September the right cheek and nose began to swell, a bilateral nasal discharge commenced, and has continued, and hæmorrhage from both nose and mouth occurred twice. In the same month epiphora developed, and has continued, and the right eye began to bulge. A fortnight ago the patient became blind in the right eye.

*Present condition.*—There is a large mass of enlarged glands on the right side of the neck and a few palpable ones on the left. By transillumination the upper half of the right upper jaw is opaque.

There is a sloughing yellow mass in the right nostril, and on palpation of the posterior nares a mass projecting into the naso-pharynx is felt.

There is marked epiphora of the right eye, proptosis, and protrusion of the right cheek.

The right eye shows slight perception of light; the retina shows venous engorgement, but no optic atrophy, and the consensual reflex is present.

Sensation of the intra-orbital nerve is unaffected.

*Probable diagnosis.*—Malignant growth; probably sarcoma of naso-pharynx.

*Interesting features.*—(1) Early and bilateral glandular involvement; (2) absence of pain, or involvement of the infra-orbital nerve; (3) the comparative slight amount of hæmorrhage.

### MIDLAND MEDICAL SOCIETY.

*November the 15th, 1911.*

**Cerebellar Tumour.**—Dr. WALTER JORDAN showed a specimen of cerebellar tumour from a boy, aged 2 years, admitted into the Children's

Hospital on August the 6th with a history of constipation, loss of appetite, and irritability since June, and head-retraction and vomiting since the beginning of July, the vomiting, however, having ceased a week before admission.

On admission, the patient could not stand or sit up; there was marked head-retraction and rigidity of the right arm and leg; no anæsthesia; pupils equal; superficial reflexes slow, deep reflexes active. No optic neuritis was present throughout; on lumbar puncture clear fluid came out under pressure on two occasions. Nystagmus was noted on one day only. The patient constantly took food well, but irritability and head-retraction steadily increased. After October the 2nd there was some vomiting for the first time since admission, and on the 16th convulsions occurred and the patient died.

The diagnosis during life was occluding meningitis, but post-mortem a large tumour was found growing backwards from the upper aspect of the middle lobe of the cerebellum. There was also great dilatation of the ventricles. Microscopic sections (by Dr. Leonard Parsons) showed the tumour to be a round-celled sarcoma.

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*December the 13th, 1911.*

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**Congenital Heart Disease.**—Dr. SAWYER showed a girl, aged 4 years and 3 months, who was very undersized and presented marked cyanosis and clubbing of the fingers and toes. The cardiac apex was half an inch external to the left mammary line, and the cardiac dullness extended above to the third left costal cartilage, and about one and a half inches to the right of the sternum. There was no thrill. A loud systolic murmur could be heard all over the præcordia, and the point of maximum intensity was over the third left costal cartilage. The murmur was conducted up into the neck and towards the left clavicle. The second pulmonary sound was diminished. The red cells number 12,000,000 per c.mm. On examination of the eyes, the veins appeared very large, and there was a loss of colour contrast between the arteries and veins.

**Polio-encephalitis.**—Dr. WALTER JORDAN showed a girl, aged 2 years and 5 months. Previously to October the 2nd she had been in perfect health. She was able to walk when thirteen months old, talked at an early age and very well, and generally was regarded as a very intelligent child. On October the 2nd she had a fit, and for the next three days was unconscious. For ten days she rolled her head from side to side; on the sixth day of the disease she screamed all day, and the next day she spent standing up in her cot and biting at everything. On October the 12th she became unable to stand at all. When seen on October the 14th she could not stand, and could just sit up for a few moments at a time; was able to move her legs and had a tendency to keep them drawn up, moved her arms, and kept her hand up to her mouth, seized objects and carried them to her mouth. There was no muscular wasting or localised flabbiness, but a general flaccidity; no muscles showed any special weakness. The knee-jerks were brisk. The child made continuous crying and babbling noises, but could not speak. When shown, the child had become able to run about freely, but had not recovered speech, still making in-

articulate noises only. She was always in mischief, getting hold of everything she could reach, and had lost all the ideas she had before her illness of the nature of objects.

**Hemiplegia in a Case of Chorea.**—Dr. WALTER JORDAN showed a girl, aged 6 years, who had had chorea for seven weeks before admission to hospital on November the 11th, and who one week before admission suddenly became unable to speak or move her right arm and leg. She had a definite severe hemiplegia, quite distinct from ordinary choreic paresis; incomplete facial paralysis, complete paralysis of right arm and leg; right knee-jerk exaggerated; right ankle clonus and extensor plantar reflex. She had signs of endocarditis. Speech was returning to a slight extent by the time the case was shown, but there was no movement of the right limbs.

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### Philadelphia Pediatric Society.

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February the 13th, 1912, THEODORE LE BOUTILLIER, M.D., President

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#### STUDIES IN THE DIGESTION AND NUTRITION OF INFANTS.

Dr. MAYNARD LADD, of Boston, read this paper, by invitation. After showing a large number of lantern charts of cases treated in the out-patient service, he stated that as a result of the study of eighty-two infants with varying grades of indigestion and malnutrition, it was evident that many atrophic infants could be educated to take higher fat percentages than were ordinarily given, with satisfactory results in weight development. The average rate of gain in atrophic and undeveloped infants who were fed upon whey mixtures with lactose for prolonged periods was 18 oz. per month. When malt sugar was substituted for milk sugar in these mixtures, the rate of gain was increased to  $22\frac{2}{3}$  oz. per month, or an increase of 26 per cent. Two series of infants were fed upon plain cream mixtures with barley starch, and the excess of sugar was supplied in the form of maltose (maltose and dextri-maltose). In one group the mixtures were not pasteurised; in the other group the food was superheated to  $212^{\circ}$  F. for twenty minutes. The rate of gain in each group was the same, that is,  $21\frac{1}{4}$  oz. per month. Boiling the milk did not in any way lessen its nutritive qualities. The possibility of scorbutus was guarded against after several weeks of feeding by small doses of orange juice. Individual cases often did better upon the superheated than upon the raw milk. With an occasional exception, the infants did not make satisfactory gains in weight until the energy quotient was raised to from 140 to 160, and sometimes to from 175 to 190. Generally speaking, the energy quotient was greatest when the weight development was farthest from that of the average normal infant, as determined by the weight chart. The quantity of food to be given an atrophic infant was only a little less than that which the normal infant of the same age received, and was often from  $\frac{1}{2}$  to 2 oz. more than would be given to the normal infant of the same weight. The detailed study of the weight and feeding charts in a large series of cases showed great variations in individual requirements, and the impracticability of applying general rules of feeding to the atypical and difficult cases.



Dr. S. McC. HAMILL considered that Dr. Ladd had struck the keynote of teaching infant feeding when he had said that it was impossible to teach general principles of infant feeding which would cover every case. The problem was to feed the individual infant; and it was also individual in that the physician advising the feeding studied his results upon that individual baby. It was the individual infant who had to be fed, and the application of a special food to the special infant was the ultimate object of their work. Dr. Hamill had had success with relatively low fats and relatively high proteids with slightly lower sugars than Dr. Ladd had used.

Dr. E. E. GRAHAM said that, in the study of the nutrition and digestion of infants there were certain broad principles to be followed. It was necessary first of all to understand normal gastric and intestinal digestion in the infant; one should appreciate that in the stomach the proteid was at least partly converted into peptones; that sugars, salts and proteid were absorbed slightly from the stomach; that the younger the child, the more quickly did the stomach empty itself, and the higher the proportion of fat in the food, the more slowly did the stomach empty itself. In the intestine one should appreciate that the pancreatic juice acted on the proteid carbohydrates and fats, and that there was a rapid absorption of proteid and fats from the small intestine, while absorption from the large intestine was poor; from the latter very little fat was absorbed, although sugar, salts and peptones might be absorbed. One should also appreciate exactly what part the different elements of food played in the nutrition and heat functions of the body. One should try to decide whether the stomach or intestine or both were involved. Many cases of malnutrition presented no actual change in either the stomach or bowel. If possible one should decide what element or elements of the food were not being digested, and in feeding the baby one should try to make up the deficiency in one element by an added quantity of another. The individual child must be studied in each case. In the study of the stomachs of the patients Dr. Ladd showed in X-ray pictures, one must remember that these were not healthy children, that they had not normal stomachs, and that the gastric contents did not leave such stomachs at normal periods. Moreover many of these infants, as they were cases of malnutrition, might have had dilated stomachs.

Dr. ALFRED HAND, jun., said that Dr. Ladd had presented an interesting subject in a very interesting way, one reason for the interest attached to infant feeding being that any given infant was not going to thrive on any given mixture simply because some other infant had, as was well illustrated by the chart of the case in which it was necessary to use milk sugar instead of maltose. Dr. Hand was glad to see that the principles that had guided him in endeavouring to meet the needs of different infants were fundamentally the same as Dr. Ladd's, the main differences being that Dr. Ladd started with somewhat lower percentages. In some cases which gained very slowly, one did not always have to consider the time as necessarily lost if the infant was comfortable; for a time might soon be reached, especially with under-feeding a little, when the digestive organs had had sufficient rest, and then an increase in the strength of the mixture was followed by rapid gain. Dr. Ladd was fortunate in his term of service in the hospital, the cooler autumn months, for during the hot months in Philadelphia it was often impossible to make some infants gain, but after the middle of August, when the nights usually began to get cooler and better sleep was obtained, more satisfactory progress was made.

Dr. D. J. MILTON MILLER, of Atlantic City, said that the great thing in

infant feeding was to nourish the infant, not to feed it. Because this was forgotten, much trouble ensued. Dr. Miller had not been so successful as Dr. Ladd in giving fat to atrophic infants. They seemed to do better with relatively high proteids and maltose. One would gather from Dr. Ladd's remarks that he fed infants with fat regardless of the stools. Dr. Miller had not been successful in doing this until the indigestion was corrected. Some of the troubles of feeding were due to impure milk sugar. Through Dr. H. L. Coit's efforts a pure milk sugar of the fourth crystallisation was now obtainable. Dr. Miller had not been satisfied with caloric feeding according to the accepted standard; not only did atrophic infants require high calories, but healthy infants, if fed according to the caloric requirements supposed to be suitable to their age, would, he found, be constantly hungry and crying for more food.

Dr. LADD, in closing the discussion, said that while he started these infants upon low fats, for about two months, these were later increased gradually to between three and four per cent. He always noted the condition of the bowel movements, except in cases of starvation diarrhoea, when he absolutely disregarded them. He agreed most heartily with the view that the same result could often be secured by different methods of feeding. The important point was to get results, and this could generally be accomplished by intelligent and diligent study of the individual requirements of each infant.

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## Société de Pédiatrie, Paris.

*December the 12th, 1911. (Bulletin No. 9.)*

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**Prolonged Cerebro-spinal Meningitis in an Infant ; Intra-cranial Hypertension ; Craniectomy.**—MM. P. NOBÉCOURT and SEVESTRE read notes of the case of a boy, aged 7 months, breast-fed by his mother, who was in good health. On admission there were symptoms of a febrile gastro-enteritis, which did not yield to treatment; nuchal rigidity and slight myosis were noticed eleven days later. Lumbar puncture confirmed the diagnosis of meningococcic cerebro-spinal meningitis. Intra-spinal injections of 130 c.c. and subcutaneous 30 c.c. of Dopter's serum were inefficacious. After a month there appeared signs of hydrocephalus and basal meningitis with intra-cranial hypertension. The child died a few hours after a decompressive craniectomy by M. Broca. The autopsy confirmed the diagnosis.

**Large Congenital Serous Cyst of Neck.**—MM. DEMELIN and ALBERT MOUCHET showed a girl who presented from birth a cyst in the subclavicular region the size of a large orange. She was operated on on the twenty-second day.

**Scarlatina complicated by Left Hemiplegia followed by Typhoid Fever complicated by Intestinal Hæmorrhage.**—M. H. LEROUX related the case of a boy who, on the eighth day of a normal attack of scarlatina, had pains in the wrists with cardiac symptoms and severe headache. On the seventeenth day there was paresis of the lower limbs and later on complete paralysis of the whole of the left side. There was no

albumin. On the forty-fifth day epistaxis occurred with intestinal disturbance and fever. Vidal's reaction was positive. Death occurred from intestinal hæmorrhage.

**Two Cases of Intussusception.**—Dr. P. GRISEL related these, and remarked that from the point of view of diagnosis there were three varieties of such cases: (1) *Ileo-cæcal* invagination, in which the head of the invagination corresponded to Bauhin's valve, and was accompanied by progressive involvement of the ascending and transverse colon sometimes as far as its left flexure. In this variety the tumour could only be felt at the onset, when it was small, on the right side, but as the invagination increased it became deeper, less movable and less palpable. There was a moderate amount of bloody discharge and thick mucus. This was the most frequent variety in the infants below the age of one year and constituted 82 per cent. of the cases. (2) *Ileo-colic* invagination, characterised anatomically by the progressive return of the ileum through the ileo-cæcal valve which formed a fixed ring, strangling the pedicle of the invaginated mass which was free in the cavity of the ascending colon. Here the tumour, which might be large, was situated in the right iliac fossa, and remained movable like the cæcum and the ascending colon which contained it. The bloody discharge was no longer limited to a certain amount of mucus, but took the form of a bloody serum coming in gushes. It occurred in 11 per cent. of infants. (3) *Enteric* invagination, confined to the small intestine. The tumour was small, mobile, difficult to palpate owing to extreme abdominal distension. The bloody discharge was moderate, but often mixed with fæcal matter and pure blood having an offensive odour. It occurred in about 5 per cent.

**Observations on Intestinal Invagination.**—M. OMBRÉDANNE, commenting on Dr. Grisel's cases, said that four types existed: (1) Those cases in which the gut could be felt *per rectum*. (2) Those where the gut occupied the subumbilical region; corresponding to the direction of the transverse colon. (3) Those where the gut could be felt to go back under the influence of an enema. (4) Those in which the clinical course was chronic or subacute, and where fæcal matter continued to pass some time after the appearance of vomiting.

**General Œdematous Scleroderma (Besnier's Scleremia).**—MM. APERT and LEBLANC reported the case of a boy, aged 14 years, in whom the onset was extremely rapid. This disease was exceptional in children. Improvement took place under thyroid administration.

**Tuberculous Spina Ventosa of the Tibia.**—M. ANDRÉ TRÈVES showed a girl, aged 5 years, cured of this condition. The large cavity filled with surprising rapidity under injections of iodoform and ether.

**Craniotabes and Syphilis.**—Dr. J. ROUX, of Cannes, gave brief notes of eighteen cases. In one only could hereditary syphilis be imputed as a cause. In another case there was splenic hypertrophy which might have been syphilitic.

**Latent Thymic Hypertrophy.**—M. D'OELSCHITZ described the case of a boy, aged 11 months, who died suddenly without apparent cause and without symptoms except slight dyspnoea and cyanosis. He discussed the signs by which such cases may be diagnosed.



**The Radioscopic Shadow in Cases of Thymic Hypertrophy.**—The same author contributed a paper on this subject.

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**Examination of sputum in children** (*Gazz. Med. Ital.*, 1911, LXII, p. 411).—**S. Riva-Rocci**, recognising that most physicians consider the examination of a child's sputum to be impossible, has devised a method to overcome the difficulty, which obviates the necessity of passing a swab into the larynx. He began to practise his method in 1897, and after an extensive trial, has now decided to publish it. He uses a glass plate, 8 by 12 cm., set in a nickle frame, from which it can easily be taken; the frame has a conveniently curved handle. The plate placed in the frame has both its surfaces free, and a ledge in the frame allows it being laid on the table or in a box without touching. The author also uses a collector, devised to gather up the deposit on the plate and convey it to a microscope slide, consisting of a metal handle, having at one end flat forceps blades, the size of an ordinary glass slip. Between these blades there is a thin strip of rubber  $\frac{1}{4}$  mm. thick, projecting about 2 mm. from the edge of the blades. With these instruments the procedure is as follows: The plate, previously sterilised, is placed in its frame; every time the child coughs the nurse holds the plate in front of its mouth, about two inches from the lips, in such a way that its centre corresponds to the buccal aperture, and keeps it there during the fit of coughing; the plate is then replaced in its box, and the procedure repeated every time the child coughs. Both sides of the plate may be exposed to the child's mouth. After a sufficient time, generally about half a day, the plate is taken out for examination, the collector is cleaned and moistened with sterilised water, and its rubber end used to clean up every part of the plate. The material collected is conveyed to a glass slip, dried, fixed, and coloured, and then examined. In this way the author has examined many cases, demonstrating thereby the organisms found in children's sputum. In the differential diagnosis between pulmonary tuberculosis and simple bronchitis it has afforded him valuable aid. The method is very simple, and years of trial have convinced the author of its practicability.

VINCENT DICKINSON.

**Spasm of the larynx in broncho-pneumonia** (*Rev. de Méd.*, 1911, *Lépine Jubilee number*, p. 865).—**E. Weill** regards spasm of the larynx in broncho-pneumonia as due to the co-existence of two factors of equal importance—a laryngeal lesion and hyperexcitability of the nerve centres. The latter accounts for the frequency of the phenomenon in the first two years of life. The present cases occurred in children aged twenty-six months, two and a half years, and three years respectively. Unlike Variot, in whose case the larynx was normal (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1911, viii, p. 137), Weill found oedematous infiltration of the larynx in two, and in the third ulceration and abscess.

J. D. ROLLESTON.

**Small bronchial dilatations in children** (*Gazz. Med. Ital.*, 1911, LXII, p. 133).—**Hutinel** maintains that this condition is more common in children than would be inferred from the text-books, but it gives rise to little secretion, which is rarely purulent. The most frequent antecedent is a severe infection complicated by broncho-pneumonia of long duration, generally measles, but frequently influenza, diphtheria, typhoid and scarlatina. Other causes are pleuritic adhesions, presence of foreign bodies, stenosis of the respiratory tract, especially when caused by mediastinal adenopathy. These bronchial dilatations are hardly ever tubercular; they form, however a good soil for infection; they are frequent in children with imperfect nasal respiration, subject to constant and tiresome cough. Hereditary syphilis is another important ætiological factor. These lesions are met with especially in the posterior inferior part of the lung. Autopsies show adhesions, emphysema anteriorly, a thick creamy secretion, and dilatations varying from the size of a pea to that of a nut, variable in number, either single or in clusters. Sometimes the dilatations are cylindrical. The mucous membrane at first remains red, then becomes greyish, and lastly almost unrecognisable in old lesions. The muscular and cartilaginous layers are destroyed, and a sclerotic tissue rich in small round-cells is substituted for the normal bronchial tissue; the sclerosis also invades the surrounding pulmonary tissue and neighbouring pleura. Generally the bronchiectasis develops later when the child seems already recovered from the complaint, and it often happens that an accidental examination reveals the disproportion between the apparent well-being and the objective local symptoms. When the patient is under observation these facts can be ascertained, but usually the condition remains latent, and its discovery is due to some common intercurrent pulmonary affection. These signs may lead to error in diagnosis unless properly interpreted. Generally there is fever with large fluctuations, rapid pulse, and tiresome cough, which in older children may be accompanied by copious expectoration. There is moderate dyspnoea. The thorax may be retracted. Bronchial breathing, small bubbling and large resonant râles may be heard. The disease may last for months, giving rise to a suspicion of tuberculosis. The lesion does not always remain localised, but may extend even to the pleura. Pulmonary gangrene and purulent pleurisy are, however, rare. Sometimes pseudo-rheumatism, arthropathy, endocarditis and cerebral attacks are noticed. Alterations in nutrition may supervene, and imperfect thoracic development, which predisposes to tuberculosis or chronic bronchitis. These cases of bronchiectasis have intermissions and exacerbations; during the intermissions it is difficult or impossible to diagnose the bronchiectasis. Differential diagnosis has to be made with tuberculosis, and is made with difficulty when the lesion is at the pulmonary apex. Prognosis in children is not so serious as in adults, since the developing lung improves the condition. Such children, however, are prone to tubercle. Acute dilatation gets well without leaving any traces; when, on the other hand, there is much sclerotic tissue formed, complete cure does not result. For treatment, wet packs and tepid baths, benzoate of soda and balsams are useful. The cardiac condition may require injections of camphorated oil or digitalis. During the intermissions respiratory exercises, breathing compressed air, open-air treatment, and sulphur waters are recommended.

VINCENT DICKINSON.

**Small bronchial dilatations in childhood** (*Rev. de la Soc. Méd. Argent.*, 1911, XIX, p. 305).—**M. Acuña** and **J. C. Navarro** think that

many children regarded as tuberculous have really only had broncho-pneumonia followed by bronchial dilatation, and that small bronchial dilatations are far from rare in children. Their site of predilection is the base of the lungs, especially of the left, and they usually involve the small and medium-sized bronchi. Their shape is most frequently cylindrical. In most cases they are associated ætiologically with broncho-pneumonia produced by various infective agents, *e.g.* inherited syphilis, whooping-cough, measles, diphtheria, typhoid fever, and smallpox. The diagnosis rests on the slight degree of dyspnoea, the absence of fever, the general condition, and the abundance of the expectoration. The prognosis is usually good, but the patients are especially liable to infections of the respiratory system. Two illustrative cases are recorded in boys, aged 2 and 12 years respectively.

J. D. ROLLESTON.

**Chronic bronchiolectasis** (*Jahrb. f. Kinderheilk.*, 1911, LXXIV, p. 627).—H. Vogt mentions a case to show that severe acute or long-existing broncho-pneumonia leaves behind structural changes in the wall of the small bronchi with dilatation of the bronchi. A focus is thus provided, from which new broncho-pneumonic disease takes for predilection its origin. As a result of advance of the inflammatory process to the larger bronchi dilatation of them takes place and thus advanced bronchiectasis results, which frequently ends in death, but a number of years may pass before this occurs. The author considers that drugs have little influence on the disease, and that the best treatment is a mechanical and surgical one.

F. R. B. ATKINSON.

**Asthma in children** (*Arch. de méd. des enf.*, 1911, xv, p. 721).—J. Comby briefly records seventy-five cases in children, in fifty-six of whom the attack started in the first three years of life. Forty-three were boys, thirty-two girls. In twenty-one there was asthma in the parents, in sixteen in the grandparents, and in three in the great-grandparents. The ascendants or collaterals frequently showed signs of arthritism, under which term are included migraine, diabetes, gout, obesity, gravel, eczema, neuralgia, etc. Familial asthma occurred in three cases. In two pairs of twins one child was affected with asthma, and the other was free from it. Infantile eczema had preceded asthma in twenty-eight cases, thus illustrating the close connection between two manifestations of the arthritic diathesis. True asthma is never caused by nasal affections, adenoids or glandular tuberculosis. The exciting causes of asthma are numerous, such as chill, fatigue, violent games, emotion, or acute disease. The onset is insidious. In some children the attack is characterised by violent and repeated sneezing (nasal asthma). Many nervous or arthritic symptoms may be associated with infantile asthma, *e.g.* laryngismus stridulus, spasm of the glottis, convulsions, obesity, urticaria, and oxaluria. The first attack is difficult to diagnosis. Broncho-pneumonia almost always suggests itself, but fever is absent or slight, and in twenty-four hours the child is out of danger. Other diseases which must be eliminated are spasm of the glottis, laryngismus stridulus, and stridor due to an enlarged thymus. The prognosis of asthma in children is not so grave as in adults. As the child grows up the attacks become less frequent and disappear entirely at puberty or in adult life. Complications, *e.g.* emphysema, bronchiectasis or chronic bronchitis are rare. Treatment consists in application of mustard plasters and dry cups, and sedatives, such as opium, belladonna, or aconite. Dover's powder is recom-



mended. Prophylaxis should be attempted by change of air (residence at Mont Dore or La Bourboule), baths and douches, vegetarian diet, and the exhibition of such drugs as arsenic, potassium iodide and sulphur.

J. D. ROLLESTON.

**Pneumonia of the right apex, lasting twenty days; typhoid state; mutism; cure** (*Arch. de méd. des Enf.*, 1912, xv, p. 123).—J. Comby.—A boy, aged 10½ years, was attacked by influenza and glandular fever; examination of the urine revealed acute nephritis. These phenomena lasted eighteen days and then began to decline, when the thermometer rose to 104·8° and 105·8° F. Auscultation revealed pneumonia of the right apex, which gradually spread to the base. The temperature remained about 104° F. without remission for twenty days. The pulse varied between 130 and 150 per minute. The patient passed into a typhoid state, and became both deaf and dumb and quasi-idiotic, which state lasted for more than fifteen days after defervescence, which occurred on the twentieth day. A bed-sore formed on the outer side of the right foot, and icterus occurred towards the end of the disease. After defervescence right otitis occurred. On the twelfth day of the disease meningeal symptoms in the form of stiffness of the limbs were manifested. Death was considered probable on many occasions, but the patient ultimately recovered, thanks, the author thinks to the capability of digesting all the fluid (milk and water) given him. The author had never seen such a serious case in a child recover before.

F. R. B. ATKINSON.

**Hæmorrhagic pleurisy in a girl, aged 2½ years** (*Arch. de méd. des Enf.*, 1912, xv, p. 125).—J. Comby describes a case in which on two occasions 200 grm. and 180 grm. respectively of hæmorrhagic fluid were removed from the chest. The patient ultimately died, and on post-mortem examination a small celled sarcoma was found originating in the thymus-gland.

F. R. B. ATKINSON.

**Left pleurisy with excessive effusion and syncopal phenomena** (*Gaz. des Hôp.*, 1911, LXXXIV, p. 1303).—M. L. Baumel describes this case in a girl, aged 15 years, and finds that the syncopal attacks as well as an enlarged spleen and albuminuria are due to dilatation of the right heart. In the case recorded a litre of sero-sanguineous fluid was removed from the chest, and absorption of the remainder took place with a perfect cure.

F. R. B. ATKINSON.

**The diagnosis of pleuritic effusions in infancy** (*Arch. of Pediat.*, 1911, xxviii, p. 28).—D. J. M. Miller, in consequence of the extreme frequency of purulent pleural effusions in children and the danger of the condition in infants under six months, lays stress on an early diagnosis. Though the child usually looks ill there is no correspondence between the general symptoms and physical signs; an infant may not appear very ill, yet the chest may be full of pus. The physical signs of pleural effusion in infancy differ materially from those met with in adults, their peculiar character being due to physical conditions for which, as yet, no adequate explanation has been given. Displacement of the heart's apex is one of the most reliable signs that we possess, and is very commonly present, except when the amount of effusion is quite small or localised; but adhesions may prevent its occurrence and the apex may be actually displaced to the left in a left-sided effusion.

Vocal vibrations may be well marked or seemingly increased, even over large collections of fluid. Next to exploratory puncture, dulness on percussion in infants may be the most reliable sign of fluid that we possess; with a dulness there is an increased sense of resistance to the percussing finger, which is highly characteristic. Râles, both friction and bronchial, may be heard over very large effusions, not only above, but also below the level of the fluid, hence their presence should not exclude an effusion. Localised and sacculated empyemas are extremely puzzling and difficult of diagnosis; exploratory puncture must frequently be resorted to in order to establish their existence, and is the decisive and only absolutely sure means of diagnosis. He refers to the editorial in the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1905, II, p. 466, warning against the routine use of the syringe; yet, notwithstanding the rare accident of a fatal issue on puncturing, the disastrous results of unrecognised empyema may make it imperative, if after careful and repeated examinations the diagnosis is still in doubt.

J. E. BULLOCK.

**Case of mediastinal cyst** (*'Arch. of Pediat.,'* 1911, xxviii, p. 194).—A. D. Blackader and D. J. Evans record a fatal case in a male infant, aged 9 months, in whom death was due to compression of the trachea. The symptoms started when the child was seven months old with sudden attacks of dyspnoea. An area of dulness was found at the upper part of the chest, extending 3 cm. to the right and 2 cm. to the left of the median line and 5 cm. downwards from the episternal notch. During expiration a firm body was palpable above the left sterno-clavicular joint. The diagnosis of enlarged thymus was made during life. At the necropsy a globular unilocular cyst was found behind and to the left of the trachea. The wall was composed of muscular and fibrous tissue and the inner surface was lined by columnar ciliated epithelium. The writers think the cyst arose from a partial persistence of the original fistulous communication between the trachea and œsophagus.

J. D. ROLLESTON.

**Chronic mediastinitis in children** (*'Arch. de méd. des Enf.,'* 1912, xv, p. 52).—J. Comby.—Sucklings are rarely affected. The disease principally attacks older children; girls are affected as often as boys. It is frequently due to hereditary syphilis or tuberculosis; rheumatism, scarlet fever, pertussis, anthracosis, and traumatism have all been mentioned as causes. The normal tissue is transformed into hard fibrous tissue, encircling the vessels and nerves. The liver is enlarged. The onset and progress are insidious, and the symptoms vague; deformities of the thoracic wall and dulness over the affected region have been noted. If pressure occurs on the bronchi, trachea, œsophagus, nerves and vessels, symptoms associated with this pressure arise. Three forms can be clinically distinguished: (1) Mediastinitis without participation of the pleura and pericardium; (2) mediastinitis with implication of the pleura; (3) mediastinitis with implication of the pericardium. The first form is the rarest, the third the commonest. The prognosis is very grave in the child because tuberculosis is so frequently present (eighteen deaths out of twenty-five cases). The treatment consists of good hygienic conditions, rest, fresh-air, good food, cod-liver oil, syrup of phosphates, iodotannin. If syphilis be suspected, injections of a solution of biniodide in water and "606" are recommended. Resection of many of the ribs on the left side has been practised.

F. R. B. ATKINSON.

**Tuberculosis in children** (*Brit. Journ. of Tuberculosis*, 1912, vi, p. 19).

—**Woods-Hutchinson**.—The frequency of pulmonary tuberculosis in children is much greater than was formerly supposed. The lung is the most frequent site of tubercular involvement in children, as in adults; whatever the port of entry, the lung suffers most severely as well as most frequently; instead of tuberculosis having a special preference for the bones, joints and glands in childhood, the tuberculous process in these regions would appear to be secondary to the involvement of the lung and to represent a residual stage of a generalised infection. Even the glandular forms of tuberculosis do not represent an earlier or milder form of the infection, but are secondary to a pulmonary involvement. The moderate, but appreciable degree of immunity to pulmonary tuberculosis possessed by children who have manifested osseous, articular, or glandular forms of the disease is possibly to be interpreted by the theory that they have already survived a considerable degree of pulmonary involvement. Such immunity as may be acquired by civilised races is probably the result of survival of attacks of the pulmonary form of the disease in childhood.

J. E. BULLOCK.

**Frequency of consumption in children** (*Birm. Med. Rev.*, 1912, xix, pp. 57 to 67).—**J. E. H. Sawyer** says that consumption as it occurs in adults is one of the rarest of all affections in children, and comments on the great discrepancy of the figures published in the annual school medical reports. The future and post-mortem records do not reveal the error to be on the side of the sceptics. In 850 autopsies evidence of healed tubercle was found in 7, and clinically 1 in 1175 children examined. Tuberculosis of the lungs in pædiatric practice is found to be either a tuberculous bronchopneumonia or part of a generalised infection. Difference in opinion arises from the interpretation of signs found, such as tubular breathing or impairment of breathing at one apex, and from the fact that in debilitated and rickety children transient areas of dulness are observed, due to portions of the lungs not acting to their full extent, by a bronchus being plugged with secretion. Much of the supposed consumption is the chronic bronchial catarrh due to enlarged tonsils and adenoids. Chronic coughs are not due to tuberculosis of lungs, which usually kills in under a year, but to nasopharyngeal disorder and a mild form of bronchiectasis especially common after whooping-cough.

CHRISTOPHER ROLLESTON.

**Intra-thoracic tuberculosis in children** (*Amer. Journ. of Obstetrics*, 1912, lxxv, p. 335).—**Ager**, from a study of 125 cases, summarises his conclusions as follows: There are no data at present to indicate how general pulmonary tuberculosis is among children. It is possible, with reasonable certainty, to make a diagnosis of thoracic gland tuberculosis in children before the lungs are affected. In the pre-pulmonary stage the prognosis is fairly good at all ages in children. In pulmonary infection the prognosis depends to a considerable extent on the age period, being best between five and eleven years. During the period of sex development the prognosis is about three times as bad among girls as among boys. Success in treatment depends more upon twenty-four hours in the open air than upon everything else. Tuberculin is distinctly beneficial in certain selected cases.

J. E. BULLOCK.

**Tuberculous tracheo-bronchial glands in children** (*Thèses de Paris*, 1911-12, No. 16).—**Barbe-Oberlin**, from an observation of 42 cases,



concludes that enlargements of the tracheo-bronchial glands are almost always the initial clinical manifestation of tuberculosis in the child. It is important to make an early diagnosis, but this diagnosis is extremely difficult to establish; irregularities of temperature and emaciation are important accompaniments, but they will not suffice to settle the point. A large number of the signs obtained by auscultation and percussion are not above criticism, they are often merely subjective. X-ray methods alone appear capable in a large number of cases of giving absolute certainty. Swellings either too small or too deeply situated to afford certain signs by percussion or auscultation are depicted on the screen; at other times the radiographic shadows give indisputable evidence. In the case of peri-bronchial glands a positive result is of absolute value, but a negative result allows of doubt. Although enlargement of the tracheo-bronchial glands in children is tuberculous, in the great majority of cases one must always use von Pirquet's test, which gives certain evidence of the real nature of the lesions. If the reaction is negative and remains negative on repetition, we can almost certainly exclude tuberculosis. X-ray methods and the interpretation of shadows are open to further developments, but they give us useful indications. Every clinical examination of a patient suspected of enlarged tracheo-bronchial glands is incomplete if it is not accompanied by an X-ray examination and a cuti-reaction to tuberculin.

J. E. BULLOCK.

**The general and local reaction to tuberculin in children** (*Gazz. Med. Ital.*, 1912, LXIII, p. 43).—Péhu prefers the intra-dermic reaction of Mantoux, using a solution of 1 in 5000. He practised it in over 500 cases of various diseases. In pulmonary phthisis it is always positive in the early stage, for the most part negative in advanced forms with excavations, especially when there is intense cachexia. The ophthalmo-reaction was often positive on the other hand even in these cases. In general diseases, such as typhoid, rheumatism and syphilis, the intra-dermic reaction was often positive. In hereditary syphilis, however, the author did not obtain a positive reaction. He is of opinion that in the present state of our knowledge we cannot deny the specificity of the reaction. However, admitting, with some authors, that the cuti-reaction and intra-dermo-reaction demonstrate the presence of an old or recent focus, either active or extinct, encapsuled or calcified, and that the ophthalmo-reaction only shows active tuberculosis in an advanced stage, it is, nevertheless, not possible to assign to these methods an important position in clinical work, because they give no indication as to the site of the lesion, but only indicate that in the symptom-complex one of the factors is tuberculosis. The results obtained by this method, however, are very valuable in early infancy. Some observers wish to attribute to the local reactions a value of probability in the prognosis of tubercle, but the author thinks it impossible to avoid error in forming a judgment between active and quiescent tubercle. He concludes that further research is still requisite to ascertain its exact clinical value, two points deserving special attention, namely, the pharmaco-dynamic unification of tuberculins, and the correct solution of the problem of their specific action on the tissues and on the organism.

VINCENT DICKINSON.

**A study of local reactions to tuberculin** (*Arch. de méd. des enf.*, 1911, xiv, p. 925).—Rozenblat, as a result of observations on 129 infants, aged 2 weeks to 14 years, concludes that there is no constant

connection between the sensitiveness of an organism to tuberculin and the extent of the tuberculosis, neither is there any relation between the local reaction and the clinical form of the tuberculosis; at the most, one can assert that a cachectic reaction corresponds to an advanced tuberculosis and a torpid reaction to a latent focus. By a cachectic reaction is meant a reaction of faint colour, often merely a livid patch, with little or no infiltration, and by a torpid reaction is meant a reaction which takes more than twenty-four hours to develop. For the cuti-reaction (von Pirquet), pure tuberculin of the Pasteur Institute was used, and a hundredth solution for the intra-dermic reaction of Mantoux (a modification of the puncture reaction of Hamburger).

J. E. BULLOCK.

**Prognosis in tuberculosis of infancy** (*Monats. f. Kinderheilk.*, 1912, x, p. 531).—H. Hahn states that the prognosis is worse the earlier the period in which infection occurs, especially if in the first year of life, and depends on the source and nature of the infection. Repeated and constant infection is unfavourable, and perhaps the virulence of the bacilli. Illegitimacy favours the occurrence and course of infection; bad hygiene and acute infectious diseases adversely affect the prognosis. Children without fever in whom the body-weight improves and in whom the process in the glands is limited often survive. Cases in which tuberculosis occurs in the eyes, glands, bones or joints, have a good chance of life. Infants with a tendency to generalisation and with affection of internal organs, especially the lungs, do badly. Breast-feeding has no distinct influence on the course and prognosis of infantile tuberculosis.

J. E. BULLOCK.

**Herpes zoster and tuberculosis** (*Progrès Méd.*, 1911, 3 sér., xxvii, p. 361).—H. Barbier and C. Lian.—Zoster may occur at the onset of pulmonary tuberculosis, in which case it will confirm the diagnosis, and indicates an infection of the nervous system, or it may be the first sign of a hitherto unsuspected tuberculosis. The writers record five cases in which zoster was followed within a few months by tuberculous meningitis. They do not, however, regard all cases of zoster as tuberculous, as they had a case in which the cerebro-spinal fluid, although showing a lymphocytosis, did not infect a guinea-pig.

J. D. ROLLESTON.

**Herpes zoster, a sign of a latent tuberculosis** (*L'Echo Méd. du Nord*, 1912, xvi, p. 37).—Pierret and Boquillon believe that some cases of zona are symptomatic of latent tuberculosis, especially the thoracic cases. They quote ten cases, three of which are children, in which tuberculosis was either present at the time of examination or developed within a year. They also consider that the development of herpes in a tubercular individual gives a bad prognosis to the case.

J. PORTER PARKINSON.

**Erythema nodosum and tuberculosis** (*Bull. Soc. Sci. Méd. de Bucarest*, 1909-10, p. 171).—S. Constantinesco records four cases in children, aged from four and a half to seven and a half years, suffering from erythema nodosum. All showed a positive cuti- or intra-dermo-reaction. Two had previously had paroxysmal cough, associated with enlarged tracheo-bronchial glands. One child, a month after recovery from erythema nodosum, developed symptoms of tuberculous meningitis and died.

J. D. ROLLESTON.

**Tuberculin in the treatment of tuberculosis in children** (*Jahrb. f. Kinderheilk.*, 1912, LXXV, p. 166).—Wittich records his experiences in sixty cases. Koch's old tuberculin was used, the initial dose being  $\frac{1}{1000}$  mgrm. The children, whose ages ranged from two and a half to fourteen years, attended the clinic twice a week, and the mothers were instructed to fill in a form recording appetite, cough, pains, night-sweats, general condition and the action of the bowels. The weight was taken once a week. Usually about thirty injections were given, by gradually increasing doses up to 3.0 mgrm.; the injection was made in each forearm alternately with the usual aseptic precautions. No injection was given if the temperature was over 37.5° C. Cases of open tuberculosis or bone tuberculosis were not treated. In the first group of cases were children of a "scrofulous" type, *i. e.* flabby, pasty children with pale faces, red and swollen eyelids, nasal discharge, thick upper lip, and cracks at the angles of the mouth—in whom no improvement could be brought about by general hygiene and medication. In them *v. Pirquet's* test was very positive, and the greater the reaction the better was the result of tuberculin treatment, especially when the smallest doses gave a marked rise of temperature; such rise was only temporary and did not recur. In the "scrofulous" no dose above 3 mgrm. was given. The second group of cases showed the beginning of tuberculosis by physical signs in the chest, while X-rays were used for the detection of enlarged bronchial glands. In some reaction to *v. Pirquet's* test was marked, in others slight; only a few gave no reaction, in these tuberculin treatment was borne badly, but the ultimate result was good. In some cases the temperature rose to 38° C. In this group and in the "scrofulous" children the local reaction in the arm was sometimes severe. Improvement was shown by disappearance of the scrofulous stigmata, improvement in appetite, weight and cough, night-sweats, and the general and local condition.

J. E. BULLOCK.

### Treatment.

**Use of cold baths in diseases of children** (*Canad. Pract.*, 1911, xxxvi, p. 679).—Newell considers that many of the diseases of children can be just as successfully treated by baths as by drugs, such as convulsions accompanied by high fever, or many of the sharp febrile attacks of children. The stimulating action on the skin and the consequent reflex action on the heart and respiratory centre, causing an increase in the general blood-pressure, are productive of very beneficial results, and the increased respiration increases the metabolic processes and causes an increase in the amount of hæmoglobin.

J. PORTER PARKINSON.

**The effect of the hot-air bath in nephritic children** (*La Pediatria*, 1911, xix, p. 403).—G. B. Allaria made observations on 15 children with nephritis, caused by scarlatina in 7, by tonsillitis in 2, by pneumonia in 1, by diplococcal infection in 1, by whooping-cough in 1, and of unknown cause in 3. The duration of the baths varied from half to one and a half hours, the usual temperature was 40° to 49°. The baths were well tolerated, had a sedative effect on nervous symptoms and a beneficial one on arterial tension. The urine after the bath indicated an improvement in renal activity, increase in the total molecular concentration and also of chlorides and urea. It was noticed that as a rule the blood sediment greatly diminished after the bath.

VINCENT DICKINSON.



**Treatment of albuminuria in children** (*'Thèses de Paris,'* 1911-12, No. 14).—A Galliot says that a milk diet should not be continued when after a week, or at most a fortnight, no diminution in the albuminuria is obtained. A chloride-free diet should never be employed in albuminuria not accompanied by œdema. Diphtheria antitoxin may always be tried, especially if a previous sore throat is suspected (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 374). A diet with an excess of chlorides may give good results, especially in young children. Other methods failing, drugs may be employed, especially protoxalate of iron. The thesis contains the histories of twenty-four illustrative cases. J. D. ROLLESTON.

**Bromural in the treatment of children's diseases** (*'Allg. Wien. mediz. Zeitung,'* 1910, LV, p. 459).—Kraus recommends bromural very strongly as having no undesired or injurious effects and no cumulative action. He has been more satisfied with its use in cases of restlessness at night, and especially in *pavor nocturnus*. In a child aged 8 years, who was subject to extreme night terrors on the slightest disturbance, for instance, noise or darkness, bromural had an excellent effect. From 0.10 cgm. can be given to sucklings. M. D. EDER.

**The limitations to the successful employment of salicylates in rheumatic affections** (*'Clin. Journ.,'* 1911, XXXVIII, p. 297).—A. F. Voelcker, in a paper read before the Medical Society of London, gives the results of his own experience in this matter. The chief use of the internal administration of salicylate he regards as for the relief of pain. In some cases aspirin gives better results than sodium salicylate, while the addition of 3 to 5 gr. of potassium iodide to the latter may be beneficial. Joint effusions are markedly benefited by salicylates, but their response to treatment is less rapid than the disappearance of pain. Previous mechanical irritation, as by movement of the joint, renders the treatment by salicylate less effectual. The fever of acute rheumatism is most successfully controlled by salicylate, the normal temperature being reached by the third day, but for the regular swinging temperature of the "rheumatic state" salicylates have proved most unsatisfactory. For rheumatic hyperpyrexia the employment of salicylate is a waste of valuable time. The internal administration of salicylate has no beneficial effect upon nodules or upon the cutaneous manifestations of rheumatism (*erythema nodosum* included). The drug exerts no benefit upon the course or severity of pericarditis, while by upsetting gastric digestion it may do harm. For chorea no drug is less satisfactory than salicylate. The local application of salicylate relieves the pain in rheumatic pleurisy, pericarditis, "painful heel" and *erythema nodosum*, but has no effect upon the size of nodules. Oil of wintergreen made into an ointment with lanolin, in the proportion of 1 drm. of the oil to 1 oz. of lanolin, is a useful preparation for local application.

REGINALD MILLER.

**The treatment of diabetes mellitus in children** (*'Gazz. Med. Ital.,'* 1910, LXI, p. 475).—M. Lauritzen says that the treatment of this disease in children has much greater chances of success when undertaken in the earliest stages, and for this purpose, when there is a history of glycosuria in the parents or intractable skin disease in the child, he advises an examination of the urine after a test-meal, which consists of 30-50 grm. rice boiled in water, 25 grm. fish, 100-200 grm. potatoes, 25-75 grm. bread, according to

age. In the first and second year of life the author was not able to modify the rapidly progressive course of the disease. He obtained some success in a child of fourteen months with a mixture of milk, cream, water and sugar, equivalent in all to 1000 calories, but a relapse took place, and the child died of coma two months after the commencement of the illness. After the second year in slight cases, the author advises a diet without hydrocarbons and very little albuminoid. The body-weight and the presence of acetonuria must be carefully controlled. Later on gluten bread may be allowed, provided that the daily quantity of carbohydrates does not exceed 40-50 gm., and should be reduced to a still smaller quantity if it is impossible to obtain urine free from sugar. As an example, such a diet for a child four years of age and 17 kgrm. in weight would be: 50 gm. roasted fish or ham, 25 gm. of fat, 25 gm. of cheese, two eggs, 200 gm. vegetables or sugar-free fruit, 50 gm. of butter, 80 gm. of aleuronated bread or 100 gm. of gluten bread; altogether 1300 calories, or 77 for every kgrm. of weight. In every month there should be some days of pure vegetable diet. If, in spite of this diet, the glycosuria is not suppressed, the hydrocarbons must be still further reduced. When a sugar-free urine is ultimately obtained the diet must not be altered for at least two years, and during this period the child should be carefully watched, in hospital if possible; the quantity of hydrocarbons may then be cautiously increased. Even in cases of moderate gravity the author was able to obtain by dietetic treatment at least a slower progress of the disease, so that he advises it to be continued even if there are signs of acidosis present. By keeping the patient in bed the hydrocarbons and albuminoids can be methodically reduced, while the fats are increased. Every fresh restriction of diet is preceded by a day of vegetable diet, in which the patient is given 400-600 gm. of vegetables free from hydrocarbons, two to four eggs, 50-100 gm. fat, tea, coffee without cream, soda-water. With barley broth, vegetables, and alkalies to diminish the elimination of ammonia, the author thereby reduced the glycosuria to a minimum, and obtained an improvement in the general health of the patients.

VINCENT DICKINSON.

**Treatment of congenital syphilis with salvarsan** (*Jahrb. f. Kinderheilk.*, 1911, LXXIV, p. 322).—E. Welde.—A review of the literature with 101 references. Criticism of each case and of the collected material is left to the reader.

J. D. ROLLESTON.

**Salvarsan in congenital syphilis** (*Jahrb. f. Kinderheilk.*, 1912, LXXV, p. 56).—E. Welde gives the results of treatment by salvarsan in twenty-eight cases of congenital syphilis. In the earlier cases subcutaneous and intra-muscular injections were tried, but as these gave rise to painful infiltrations they were replaced by intra-venous injections, which were sometimes difficult to perform in infants. The average dose was 0.1 gm. and in some cases two or three injections were given. The cases were of different degrees of severity, from snuffles to extensive skin eruptions and visceral lesions. The general condition improved after injection and lesions of skin and mucous membrane healed quickly, but visceral affections, such as enlarged spleen and liver and glandular enlargements, were only improved in a few cases. A case of interstitial keratitis improved after two subcutaneous injections of 0.15 or 0.1 gm. The Wassermann reaction only became negative in one case, but then positive again. No bad effects were observed, and no deaths were attributed to the drug, although five children died a few

weeks after injection from intercurrent affections. The author concludes that the results were good, but not better than can be obtained with mercury and iodides.

C. F. MARSHALL.

**Effect of salvarsan on congenital lues** (*Arch. o. Pediat.*, 1911, xxviii, p. 918).—**L. R. DeBuys** records three cases: (1) Male, aged 2 months, with snuffles, enlarged liver and spleen; Wassermann positive in baby and parents. Mother given 0.5 grm. intra-venously. The child improved and Wassermann became negative in the mother and child. Seven inunctions of mercury were also given to the child. (2) Male, aged 3 days, with snuffles, enlarged liver and spleen. Improvement followed the intra-venous injection of mother with 0.6 grm., but Wassermann remained positive in both. (3) Girl, aged  $9\frac{3}{4}$  years, with syphilitic nerve-deafness. No result from treatment. Wassermann still positive.

J. D. ROLLESTON.

**Treatment of heredo-syphilis by "606"** (*Bull. Soc. Sci. méd. de Bucarest*, 1910-11, p. 66).—**N. Zaharesco**.—After a single subcutaneous injection given to the nursing mother the rash and nasal discharge in the child disappeared and there was a gain in weight, though Wassermann's reaction was positive. In the mother the reaction was positive before treatment, but became negative afterwards.

J. D. ROLLESTON.

**Hereditary syphilis treated with salvarsan** (*Rev. Soc. méd. Arg.*, 1911, xix, p. 622).—**M. Acuña** and **F. Schweizer** used the indirect method in one case and the direct in seven. In the former the mother was injected intra-venously without any improvement to the child, which rapidly improved, however, with the direct method. The cases treated by the direct method all received neutral intra-muscular injections. The ages ranged from thirty-three days to eight months. The dose varied from 5 to 8 mgrm. per kilo of body-weight. In only one did an abscess form at the injection site. The mortality was *nil*. In every case the drug exercised a rapid action on the skin eruption; papulo-ulcerative lesions dried up in three to five days and rapidly cicatrised; rhinitis was slower in disappearing. As regards visceral lesions, the enlarged liver soon resumed its normal size; the spleen diminished in size more slowly. Improvement of the general condition was more rapid than with mercury. The longest period of observation in any case was eight months. Wassermann's reaction, which was positive in the cerebro-spinal fluid before treatment, became negative afterwards; in some cases a reaction negative before treatment remained so, except in one case, where it became positive.

J. D. ROLLESTON.

**Treatment of congenital syphilis by injection of pregnant mother with salvarsan** (*Thèses de Paris*, 1910-11, No. 460).—**G. Lorreyte** has collected forty-six cases from literature, including three not hitherto published. The injection, which in almost every case was intra-venous, was made at periods ranging in the different cases from the second to the ninth month of pregnancy. In twelve cases, including the writer's three cases, the child made a good recovery. In three, death of the fœtus occurred *in utero*.

J. D. ROLLESTON.

**Treatment of congenital syphilis by administration of "606" to the nursing mother** (*Amer. Journ. Obst.*, 1911, LXIII, p. 335).—**H. D. Chapin**.—A male infant, aged 6 weeks, the first child, presented snuffles,



a macular rash on the cheeks and buttocks, and an enlarged liver and spleen. Wassermann's reaction was positive both in mother and child. On December 5 the mother received an intra-muscular injection of 0.4 grm. of "606." Four days after the injection the reaction was only feebly positive, and seven days after the injection negative in mother and child. The syphilitic lesions disappeared, but the child did not survive and died of inanition on December 31. No arsenic was found in the milk on December 28.

J. D. ROLLESTON.

**Congenital syphilis treated by administration of salvarsan to the mother** ('*Amer. Medicine*,' 1911, xvii, p. 486).—A. L. Wolbarst records an unsuccessful case in a male infant with a generalised papular rash, mucous tubercles in the mouth, and snuffles. The mother was given an injection of 0.5 grm. salvarsan when the child was twelve days old. Two days after the injection death of the child took place after attacks of vomiting and cyanosis. The necropsy showed extensive pneumonia, interstitial hepatitis, and nephritis. There was no arsenic in the liver, and only one part in ten million in the mother's milk.

J. D. ROLLESTON.

**Injection of the nursing mother with salvarsan** ('*Ann. de gyn. et d'obst.*,' 1911, 2 sér. viii, p. 394).—E. Jeanselme has collected twelve cases from literature in addition to four personal cases. In six the treatment was successful, in ten, among which his own cases are included, unsuccessful. His conclusions are as follows: (1) Injection of the nursing mother with salvarsan sometimes causes a rapid disappearance of the superficial syphilitic lesions in the child, e.g. maculo-squamous eruptions or mucous tubercles. (2) A recurrence of these eruptions not infrequently occurs shortly afterwards. (3) The treatment has no favourable action on the deep or visceral lesions of heredo-syphilis. It may even aggravate the disease and cause the death of the child. It is therefore prudent before adopting the method to make sure that the principal organs are not involved. (4) Mercury in the form of inunctions may keep in check the lesions which have resisted salvarsan.

J. D. ROLLESTON.

**Salvarsan milk** ('*Münch. med. Wochens.*,' 1911, lviii, p. 1169).—Jesionek, unlike Taege and Duhot (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vii, p. 450), found that the milk of women injected with salvarsan contained an appreciable amount of arsenic, provided 100 c.c. were examined. In one case the examination was made within twenty-four hours, and in another five days after injection. The milk of a goat similarly treated also yielded arsenic within twenty-four hours of injection. Jesionek records two cases in which the treatment of congenital syphilis by injection of the mother with salvarsan was unsuccessful. In the first case the child developed a syphilitic eruption the day following the injection. There was no question of Herxheimer's reaction, as there had been no previous eruption. Improvement did not occur until the mother had been given mercury and iodide. In the second case the child developed fresh syphilitic manifestations on its skin and mucous membranes during the mother's treatment, and its general condition became exceedingly grave. Disappearance of all the symptoms and rapid improvement occurred when cow's milk was substituted. These bad results are attributed to endotoxins in the child, which had either been introduced by the mother's milk or had been generated in the child itself by salvarsan. Jesionek also records a case of acquired syphilis in a girl, aged

5 years, in whom rapid disappearance of the primary and secondary lesions followed the administration of milk from a goat that had been injected with salvarsan. He concludes that non-syphilitic milk is more likely to cure a syphilitic infant than the milk of a syphilitic woman, even if her milk actually does contain anti-bodies. J. D. ROLLESTON.

**Treatment of syphilis in sucklings with the milk of a goat treated with salvarsan** (*'Paris méd.'* 1911-12, I, p. 86).—**Jeanselme, Vernes and Bertrand** mention the favourable results reported by Taege and Duhot from the treatment of syphilitic sucklings through injection of the mother with salvarsan, and the unfavourable results obtained by Jeanselme from the same method. Jesionek treated a case of acquired syphilis in a child of five years with the milk of a goat injected with 40 cgm. of salvarsan on the supposition that the drug was excreted in the milk. The observations of the above observers do not confirm the results reported by Jesionek. They treated a congenitally syphilitic child of five weeks with the milk of a goat treated with seven injections of salvarsan into the jugular vein (30 cgm. for the first injection, 40 cgm. for the others). The lesions in the child improved slowly for a time, but then remained stationary. The rapid effects mentioned by Jesionek were not observed, and the child was afterwards treated with mercury. The milk, tested by Bougault's method, showed no trace of arsenic, and when compared with milk containing a known quantity of arsenic led the authors to conclude that if the goat's milk contained any arsenic at all it could not have been more than one tenth milligramme per litre. C. F. MARSHALL.

## Otology, Rhinology, and Laryngology.

**Technique of the auditory examination in infancy** (*'Bull. et Mém. de la Soc. Franç. d'Oto-Rhino-Laryng.'* 1911, p. 148).—**Constantin** asks how infants from one to two years old can best be examined as to their hearing. He enumerates the suggestions of a hitherto scanty literature. The method used by Escat is given in detail. The child should be tested first by the voice, spoken or whispered, and then with low, medium and high tuning-forks. The Galton-Edelmann whistle or any other sound-producing apparatus may then be used, the child's facial expression being watched attentively during the tests. The most notable sign of hearing is the rotation of the head to the side from which the sound comes. Attempts at testing the bone-conduction are misleading. By the methods described it can be judged approximately whether a given child can hear or is deaf.

MACLEOD YEARSLEY.

**Acute otitis media** (*'New York Med. Journ.'* 1911, II, p. 874).—**G. L. Richards** speaks of the best method of treatment so as to prevent complications. He insists that every general practitioner should know how to examine an ear and gives hints as to the procedure. Treatment he divides into abortive and curative. The former consists of nasal and throat treatment and the use of an aural bougie of carbolic acid, opium, cocaine and atropine, slipped into the meatus, giving aconite by the mouth. If abortive treatment fails, incision should be done promptly when there is bulging. Richards pleads strongly for proper treatment by the general practitioner.

MACLEOD YEARSLEY.

**The ætiological factors of otitis media purulenta chronica** (*New York. Med. Journ.*, 1911, II, p. 873).—**MacCuen Smith** considers neglect or improper treatment of acute tympanic disease to be the chief causative factors in chronic otorrhœa. He therefore discusses the causation of the original lesion. Valuable information is afforded by bacteriology, streptococci, staphylococci, pneumococci, and the influenza bacillus being most commonly responsible. Recurrence is sometimes due to the invasion of a different type of micro-organism, and this may account for chronicity in some cases. Conditions outside the ear are also of great importance in the establishment of a chronic discharge upon an acute condition; of course nasal and nasopharyngeal conditions especially influence results. Smith enumerates several additional contributory factors, including syphilis, tubercle, diabetes, gastrointestinal toxæmias, and renal lesions, and lays special stress upon influenza as the most prevalent cause of aural suppuration of a type that is very prone to become chronic.

MACLEOD YEARSLEY.

**The aural complications of the exanthemata** (*New York. Med. Journ.*, 1911, II, p. 834).—**Saunders** discusses the aural complications of scarlet fever, measles and diphtheria, dividing them clinically into two main classes: (1) serous or catarrhal, (2) purulent. He discusses the main features and treatment of these and insists upon the importance of early incision of the drum membrane. The occurrence of purulent otitis media in typhoid fever is given as about 2 per cent. It is remarkable that no mention is made of labyrinthine deafness occurring in scarlet fever without suppuration.

MACLEOD YEARSLEY.

**Word-deafness in a girl, aged 14 years** (*Liverpool Med.-Chir. Journ.*, 1911, XXXI, p. 384).—**H. Drinkwater** records this case. This girl was first seen for deafness, stated to have been due to a protracted "cold in the head" four years before. Before this, hearing and speech had been normal. Ten days after treatment by inflation and removal of adenoids she regained hearing, but could not understand or repeat the simplest words. The auditory word-centre must either have been damaged at the onset of the deafness or become inactive from disuse. She was improving by education. She was quite intelligent, read well, and understood what she read, and could name objects shown to her.

FREDERICK LANGMEAD.

**A lecture on vaccines in aural practice** (*Clin. Journ.*, 1911, XXXIX, p. 44).—**C. E. West** considers a vaccine the best of all tonics for those who have been suffering from staphylococcal intoxication. They do no harm in acute middle-ear infections if given with caution. They are useful in lateral sinus thrombosis cases, and are probably of value in meningitis and brain infections. His experience in chronic suppuration is small.

MACLEOD YEARSLEY.

**A symptom of mastoiditis** (*New York Med. Times*, 1912, XL, p. 1).—**Alderton** enumerates the usual symptoms of acute mastoid involvement and discusses cases of doubtful diagnosis. He draws attention, in the latter cases, to a symptom which, he contends, is often present and of "great value as corroborative evidence." This is a blurring of the outline of the mastoid tip as contrasted with that of the healthy side.

MACLEOD YEARSLEY.



**Permeating mastoid meningitis** (*Practitioner*, 1911, LXXXVII, p. 867).—**J. Burgess** records a case of this disease which ended fatally in a girl, aged 8 years. The author draws attention to the presence of several round patches of white fur on the tongue, which he had never seen before (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 518).

F. R. B. ATKINSON.

**On a special form of mastoid infection in chronic infantile otorrhœa (mastoiditis nigra)** (*Bull. et Mém. de la Soc. Franç. d'Oto-Rhino-Laryng.*, 1911, p. 161).—**Brindel** describes a chronic mastoid infection characterised by a diffuse cellulitis of a black colour, which he calls "mastoiditis nigra." It is particularly an affection of childhood and is found exclusively in old and especially in fetid otorrhœas. The black coloration of the alveolar walls and their contents does not exclude other lesions. It is a diffuse cellulitis of the mastoid process nearly always necessitating a complete exenteration of the mastoid. The after-treatment has no special features; sometimes, in later years, there is a formation in the operation cavity of bullæ filled by a black fluid. The pathogenesis of mastoiditis nigra is at present unknown. Brindle suggests it may be an aspergillus nigricans or some other parasitic infection. At present he can suggest nothing conclusive one way or the other.

MACLEOD YEARSLEY.

**Three cases of sub-periosteal abscess of the mastoid** (*Journ. de Méd. de Paris*, 1911, xxxi, p. 877).—**M. Jacob** describes three interesting cases in young persons aged 12 months, 11 years and 17 years respectively. They were characterised by little spontaneous pain, good general condition and little or no fever. Incision was followed by cure in eight days. In one case a pneumococcic arthritis occurred later.

MACLEOD YEARSLEY.

**Membranous rhinitis** (*Lancet*, 1912, I, p. 292).—**Duncan Forbes** and **H. P. Newsholme** write to illustrate the relation between membranous rhinitis and diphtheria, and to describe the treatment of three cases by a vaccine. Their conclusions are as follows: (1) Membranous rhinitis can readily produce similar disease in others. (2) The connection between membranous rhinitis and diphtheria in a school outbreak (described by the authors) was so intimate as to make a causal relation between them almost certain. (3) It is a point of great practical importance that the comparatively frequent occurrence and great infectivity of membranous rhinitis should be recognised widely. Missed cases of the disease would readily account for a not inconsiderable proportion of school diphtheria. (4) An autogenous vaccine seems to be of definite value in removing membrane, getting rid of nasal discharge, and hence greatly reducing the infectivity of membranous rhinitis. But the vaccine does not appear capable of completing the work of elimination after the membrane has gone.

MACLEOD YEARSLEY.

**A case of rhinitis caseosa** (*Lancet*, 1912, I, p. 226).—**H. W. Wilson** records the case of a girl, aged 11 years. Left naris normal; right naris full of muco-pus, with a yellowish-white "membrane" in the middle turbinal region. The underlying mucous membrane appeared healthy when the material was removed with forceps. Alkaline douching for a week cleared the nose completely. The mass proved to consist microscopically of

long, fine needles, mixed with structureless material, with numerous micro-organisms (short-chained streptococci and *Staphylococcus pyogenes aureus*), pus-cells, and a few crystals. MACLEOD YEARSLEY.

**The rhino-pharynx as the habitat of the meningococcus** (*Revue d'Hygiène*, xxxiii, 1911, p. 627).—Netter and Debré report that in the early stages of cerebro-spinal meningitis the meningococcus is found in about 93 per cent. of cases in the naso-pharynx, disappearing therefrom as the disease advances. It is also to be found among healthy people in contact with cases of meningitis or living in localities where the disease is epidemic. In certain epidemics the percentage of healthy carriers was as high as 32. Coryza is not uncommon among them. MACLEOD YEARSLEY.

**On post-nasal catarrh in children and some of its consequences** (*Lancet*, 1911, ii, p. 1186).—Eustace Smith deals with this common and frequently overlooked trouble in a thoughtful and valuable paper. Attention is drawn to its relations to chronic cough, complete loss of appetite, "cyclical vomiting," glottic spasm, acute enlargement of cervical glands, and the like. The use of local applications by swabbing or by drops administered through the nose is recommended. MACLEOD YEARSLEY.

**The prophylaxis of the oro-pharynx and naso-pharynx** (*Med. Record*, 1911, ii, p. 824).—Güntzer calls attention to pathological conditions invading the oro- and naso-pharynx, especially in acute infectious diseases, and complains of the neglect such conditions often meet with from the general practitioner. He points out that the causative micro-organisms of cerebro-spinal meningitis, poliomyelitis, scarlet fever, measles, pertussis, mumps, rheumatism, etc., all enter by the tonsils. A purely streptococcal infection of the throat would not be a rare affection were it more frequently recognised. Waldeyer's ring may be considered as the incubator for most of the infectious diseases. He describes the methods to be adopted to prevent a general systemic infection originating from oro- and naso-pharyngeal conditions. MACLEOD YEARSLEY.

**Tonsillar and peritonsillar abscesses** (*Gaz. des Hop.*, 1911, LXXIV, p. 1279).—Soubeyran and Sassy discuss these matters from the points of view of complications, diagnosis, and treatment. Diagnosis must be made from gumma, tumours, odontogenous periosteal abscess, and retro-pharyngeal abscess. The methods of incision are fully discussed. A very full bibliography is appended. MACLEOD YEARSLEY.

**Treatment of tonsillar and retropharyngeal abscesses** (*Paris Méd.*, 1911-12, i, p. 22).—J. Comby condemns the use of a knife in such cases and recommends that the abscess should be opened by a grooved director and the opening enlarged with the point of an artery forceps. J. D. ROLLESTON.

**Amygdalotomy and amygdalectomy** (*New York Med. Journ.*, 1911, i, p. 1192).—Max Lubman suggests that any division of opinion upon the operative treatment of tonsils is due to ignorance of their functions, especially as regards the question of internal secretion. He compares this with the case of the appendix. Lubman himself considers that the tonsil

should be acted upon radically. The belief of Masini that it has an internal secretion comparable to that of the suprarenal is unfounded, whilst the menace that the tonsil can be to the organism is demonstrated daily.

MACLEOD YEARSLEY.

**A clinical lecture on enucleation of the tonsils** (*Clin. Journ.*, 1911, xxxix, p. 156).—**Dan McKenzie** discusses the advantages of tonsillectomy *v.* tonsillotomy as a routine operation, greatly in favour of the former. He then considers tonsillectomy as the operation of necessity in (1) acute septic infections and chronic septic states; (2) buried tonsils; (3) tuberculous cervical glands; (4) when, after tonsillotomy, the tonsils have "grown again"; (5) in cases of "irritable tonsil." The operation described is that generally performed by the author, for which he prefers general anaesthesia and has designed a special instrument or separator. Some very sapient remarks are made as to the occurrence of sepsis, which, in tonsil cases, is usually due to such avoidable causes as dental caries or pyorrhœa. There can be no doubt that, in dealing with hypertrophied faucial tonsils, one of the forms of enucleation now practised is the best and most surgical procedure.

MACLEOD YEARSLEY.

**The relation of enlarged tonsils to endocarditis** (*Ann. of Otol., Rhinol., and Laryngol.*, 1911, xx, p. 565).—**A. C. Getchell** reviews the literature of this subject and gives his own experiences. He is convinced that, so far as endocarditis is concerned, the simply hypertrophied tonsil has little to do with it as a causative factor.

MACLEOD YEARSLEY.

**Reflections on the actual state of the question of adenoids** (*Journ. de Méd. de Paris*, 1911, xxxi, p. 973).—**Balenweck** points out that symptoms attributed to adenoids occur in other affections; they should therefore, always be felt or seen. Adenoids may give no trouble and the symptoms are not always in relation with the volume of the growths. When adenoids, at any age and of whatever size, give rise to certain manifestations, they should be removed without delay. Removal should *always* be followed by a minute and repeated examination of the nasal fossæ. Hypertrophic rhinitis should be treated whether it gets better after adenoids are removed or not, and nasal abnormalities should be rectified. Buccal respiration and defective respiration very often require a careful course of re-education.

MACLEOD YEARSLEY.

**Adenoids in the suckling** (*Gaz. des Hôp.*, 1911, lxxxiv, p. 1711).—**Sargnon, Gaté and Durif** discuss this question (laying stress upon the respiratory and other complications of adenoids), so often repeated, and, judging by cases one sees, yet requiring many more repetitions before the profession generally sees its duty clear before it—and does it.

MACLEOD YEARSLEY.

**Vincent's angina** (*Boston Med. and Surg. Journ.*, 1911, II, p. 720).—**E. H. Place** reviews the literature and records a case of noma of the cheek due to Vincent's organisms in a boy, aged 2½ years, who developed ulceration of the gums and buccal mucosa at the end of the third week of scarlet fever. No diphtheria bacilli were found in the cultures, but smears showed typical Vincent's organisms. Two weeks later the alveolar process was involved. Finally the whole left cheek became gangrenous and the frontal bone necrosed. Death took place a fortnight after an unsuccessful operation.

J. D. ROLLESTON.



**Retro-pharyngeal abscess** ('*New York State Journ. Med.*,' 1911, XI, p. 492).—**M. J. Levitt** reports on 25 cases: 18 were under one year; the youngest was aged  $4\frac{1}{2}$  months, the oldest  $2\frac{1}{2}$  years. Eleven were males, 14 females. Eleven were on the right, 11 on the left, and 4 towards the median line. Four were previously healthy. Twenty-one were either weak from birth or debilitated by recent illness such as bronchitis, measles or scarlet fever.

J. D. ROLLESTON.

**Some cases of leech in the air-passages** ('*Ind. Med. Gaz.*,' 1911, XLVI, 465).—**Major Scott-Moncrieff, I.M.S.**, describes two cases of leech in the larynx in boys of fourteen, and one of a leech in the nose in a child of three. The first required tracheotomy and partial laryngotomy, in the second the leech was removed with forceps from the posterior surface of the epiglottis, to which it was attached, and in the third case the animal appeared during chloroform anæsthesia at the anterior nares, and was removed with ease.

MACLEOD YEARSLEY.

**Laryngitis in varicella** ('*Rev. méd. de Normandie*,' 1911, XII, p. 41).—**A. Halipré and Tregouet**.—A boy, aged  $5\frac{1}{2}$  years, had an attack of laryngeal diphtheria necessitating intubation. The tube was removed on the third day, and all went well till six days later, when the temperature rose to  $100.4^{\circ}$  F. The following day a generalised eruption of varicella appeared accompanied by fresh difficulty in breathing and loss of voice. The next day the dyspnoea was as severe as on the first occasion and intubation was again performed. Bacteriological examination, which had previously shown diphtheria bacilli, now yielded streptococci only. The tube was removed within three days and subsequent recovery was uneventful. The authors could find only four other cases on record of laryngitis in varicella, two related by Boucheron and two by Marfan and Hallé.

J. D. ROLLESTON.

**An analysis of 312 cases of laryngeal diphtheria** ('*Austral. Med. Journ.*,' 1911, I, p. 231).—**F. V. Scholes**.—These cases formed a percentage of 25.5 of 1224 cases of diphtheria; 178 were boys, 134 girls. The mortality among the former was 9.0 per cent., in the latter 3.7 per cent. All but four were under ten years. The rarity of primary laryngeal diphtheria is shown by the fact that in 256 out of 264 in whom the throat was examined there was either membrane in the fauces or signs of its recent presence there. The average dose for each patient was 17,600 units; 140, or 45 per cent., were intubated, with 13 deaths. In 13 cases the tube was retained over ten days. Of these two died with the tube in position, four were cured by persistent intubation, four were cured by tracheotomy, three had secondary tracheotomy performed with resulting "retained tracheotomy tube." Complications and sequels were rare. Paralysis occurred in only 6 cases or 1.9 per cent. Serum rashes were noted in 36.8 per cent.

J. D. ROLLESTON.

## Reviews.

GUY'S HOSPITAL REPORTS. Edited by F. J. STEWARD, M.S., and FRENCH, M.D. Vol. LXV. Pp. 414. London: J. & A. Churchill, 1911. Price to non-subscribers, 10s. 6d.

As a result of the large number of medical publications the Reports of Hospitals have in some instances suffered, but the present instalment of the 'Guy's Hospital Reports' contains a valuable collection of original papers, one or two only of which have seen the light elsewhere. Dr. Hertz, who is physician in charge of the Department for Nervous Diseases, has edited and partly contributed a series of "Neurological Studies," in the first of which stress is laid on the value of the tendo-Achillis jerk as an early sign of tabes and of latent peripheral neuritis, especially when due to alcohol or diabetes, its loss preceding that of the knee-jerk; its absence in cases of cardiac failure points to an alcoholic origin. In a thesis for the M.B.Cantab. on "Rheumatic Fever in the Last Decade," Mr. Sandison finds that among 1053 cases of rheumatic fever there was only 17, or 1·6 per cent., instances of salicylism. In view of the frequency of the disease in children it is remarkable that only one case of salicylism was under fifteen years of age. In four cases aspirin was substituted for salicylate of sodium, and in all these cases the salicylism cleared up and the joint-pains and fever did not recur. There are two papers on the closely allied subjects of "Herpes Auris," and "Acute Inflammation of the Geniculate Ganglion" by Mr. Mollison and Dr. Morton Palmer. There are also two papers on exophthalmic goitre dealing respectively with the prognosis and with the operative treatment. Dr. Price Jones contributes an interesting essay on the "Aspect of Leukæmia from the Bone-marrow"; he refers to lymphanæmia, which has the same relation to leukanæmia that lymphocytic has to myeloid leukæmia. Dr. French gives a coloured plate of pigmentation of the buccal mucous membrane in pernicious anæmia which is remarkable in that arsenic had not been given and so could not have played any part in its production. H. D. R.

PREVENTION OF DENTAL CARIES. By J. SIM WALLACE. Pp. 45. London: The Dental Manufacturing Company, 1911. Price 1s. 6d.

Dr. Sim Wallace begins his treatise with the statement that decay is due to the fermentation of carbohydrate material which has been allowed to stagnate in irregular dental pits and crevices, and to recession and abnormal arrangement of the gums. He attributes these pits and crevices to the acute specific diseases complicated by the septic state of the mouth. He shows that irregularity produces decay by the crown of the lower of two adjoining teeth bruising the upper one against which it impinges. Much of this irregularity can be prevented by breast- or hygienic bottle-feeding, followed later on by a diet ensuring efficient mastication. Dr. Wallace says that adenoids, which frequently bring about overcrowding and irregularity of the teeth, are due to cold and damp, and that the surest way to prevent these growths is to open the door instead of the window. No statistical or climatological evidence is forthcoming to justify this interesting statement.

Recession of the gums is brought about by loss of function of the teeth, and the consequent stagnation of albuminous matter and mucus around the gum and tooth junction. Tartar is then formed and further recession occurs, allowing for the deposit of carbohydrate material, which undergoes

fermentation, decalcifies the enamel, and finally produces caries. This process is to a certain extent prevented by the *Streptococcus brevis*, which liquefies albuminous matter, mucus, and incipient tartar formation, and by the mucus, and saliva lubricating the food, thus ensuring its removal from the oral cavity. Food-bolting results from giving material which does not require mastication and which has no detergent or cleansing effect upon the teeth. The absence of this quality in pap food is the main cause of caries, and is one of the chief reasons why children who are deprived of the normal stimulus afforded by hard substances to the palate desire sweetmeats. Fruits which are sweet as well as fibrous, and require, therefore, thorough mastication, should replace bon-bons in the dietary of the young. Bacteria are only of importance in that they acidify the carbohydrates which are sticking to the teeth, and by making the mucus viscid prevent neutralisation and ensure decalcification. With regard to diet on weaning, it is recommended that toast be given to the infant to gnaw twice a day. Rusks and milk puddings made sufficiently solid are to follow a month or two later, and boiled fish and chicken may also be given in small amounts. To ensure thorough cleansing of the teeth, toast, baked bread, and crusty bread rolls should replace bread and porridge. Great stress is laid upon the importance of fruit, especially the apple, as a preventer of caries. Fourteen children have been brought up on this diet, and at ages varying from five to seven there was not a single carious tooth among them. Plain water is to be used to rinse the mouth until the water ejected is free from milkiness. Tooth-brushes are shown to be useless for cleansing deep crevices and the interdental spaces, but they have their uses in cleansing teeth left dirty by an unhygienic diet. Tooth-picks are useful when recession of the gums has occurred.

Dr. Wallace has written a most interesting book, and one the truth of which can easily be proved or otherwise by the observation of medical men on their own children. C. R.

DIE ERKENNUNG DER PSYCHOPATHISCHEN KONSTITUTIONEN (KRANKHAFTEN SEELISCHEN VERANLAGUNGEN) UND DIE ÖFFENTLICHE FÜRSORGE FÜR PSYCHOPATHISCH VERANLAGTE KINDER. By Prof. Dr. TH. ZIEHEN. Berlin: S. Karger, 1912. Pp. 34. Price M. 0.80.

IN this small pamphlet Prof. Ziehen pleads for the care of children who show no marked mental disease, but various morbid psychical phenomena, such as weakness of will-power, uncontrollable emotions and the like—the so-called psychopathic constitution. The professor has, during the year 1910, met with 201 such cases, 170 severe and 31 slight. Various types of this constitution with illustrated cases are described, the emotional, the depressive, obsessive, and hyper-fantastic—words which sufficiently explain themselves. Many of these cases become incurably mentally affected, and pass into asylums; others become criminals and prostitutes. Cases of this constitution are not at the beginning feeble-minded, and should not be sent to any asylum or allowed to mix with mentally deficient children, and to avoid such cases going from bad to worse the professor rightly maintains that special buildings should be erected for their treatment, by means of which they may become useful and respectable members of society. Such a building is in course of erection in Germany and will be opened shortly, but many more are needed. The pamphlet should be read by all interested in this question. F. R. B. A.



ANATOMIE TOPOGRAPHIQUE ET CHIRURGIE DU THYMUS. By EUGÈNE OLIVIER. Pp. 152, 16 figs., 2 skiagrams. Paris: G. Steinheil.

THIS thesis contains an interesting and useful description of the anatomy of the thymus and of the surgical treatment of enlargement of the gland, with a bibliography of 142 items mainly from French literature. The author has made original observations on both the anatomy and the surgery of the thymus gland. In the section on anatomy, which occupies thirty-three pages, he states that he finds the weight of the gland to be 4 grm. at birth and that it increases by 2 grm. yearly until three years of age, after which it diminishes. He regards any thymus weighing more than 15 grm. as hypertrophied. Apparently the relation of thymic enlargement and lymphatism does not come within the scope of this work, and the two main clinical forms of thymic enlargement considered are: (a) the continuous, characterised by permanent dyspnoea, and (b) the intermittent, characterised by crises of suffocation; descriptions are also given of other but anomalous clinical forms. Of the three surgical methods of dealing with thymic enlargement, namely exothymopexy, resection of the manubrium sterni, and thymectomy, the first two are difficult and dangerous. After discussing partial and total and subcapsular and extra-capsular thymectomy, the author decides that the partial subcapsular operation, which takes barely ten minutes, is the only proper measure, and gives a full and illustrated description of this procedure. Up to August, 1911, he collected 39 cases in which thymectomy had been performed; in 4 of these, all fatal, the diagnosis was incorrect, the condition being enlarged tracheo-bronchial glands. In the remaining 35 cases the operative mortality was *nil*, but 11 died afterwards.

H. D. R.

THE MYSTERIES OF LIFE. By ISABELLE THOMPSON SMART, M.D., Medical Examiner of Defective Children, Department of Education, City of New York, Special Lecturer, New York Normal School of Physical Education, etc. Published by The Bodmer Company, New York.

THIS work is comprised of four little booklets entitled respectively—"What a mother should tell her little girl," "What a mother should tell her daughter," "What a father should tell his little boy," "What a father should tell his son." The series is admirably suited to instruct the young in matters pertaining to sex. Numbers I and III are practically identical. In these the "Story of Life" is told in plain, simple language, the process of reproduction being traced from the vegetable kingdom to the highly developed mammals. In the latter portions there is much good advice regarding the healthy development of girlhood and boyhood. In numbers II and IV there is greater diversity, considerable modifications being necessary to meet the requirements of the respective sexes. The aim, however, is the same, namely to impress upon the youth of both sexes the proper use of the sexual function and the dangers of self-abuse. The advice tendered is sound and practical.

We have no hesitation in recommending these little brochures. To obtain the full benefit of numbers I and III it is absolutely necessary that a sympathetic and intelligent person should amplify the matters discussed and should be ready to explain any points which may puzzle the child mind. The appeal to young men and young women ought to be readily appreciated by all of average intelligence. Dr. Isabelle Smart has dealt with a difficult subject in a thoroughly interesting and very able manner.

J. A.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

MAY, 1912.

No. 101.

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**Original Articles.**

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TWO CASES OF AMAUROTIC IDIOCY OR TAY-SACH'S  
DISEASE.\*

By J. TURNER, M.B., C.M.,

*Medical Superintendent, Essex County Asylum, Brentwood.*

THE two following cases of Tay-Sach's disease are interesting from several points of view, the chief being that one is, so far as I know, the first yet published out of upwards of a hundred reported, which occurred in a child not of Jewish extraction.

CASE 1.—E. W—, female, aged 13 years. Admitted May the 4th, 1897.

*Family history.*—Father, a sober man, killed. He belonged to the Christian Israelites in Islington. Her brother, now aged twenty-eight, and apparently healthy and sane, gives me this information, and adds: "I do not think he was of Jewish persuasion; I do not think I am Jewish." Her mother, a nervous, irritable woman, living in 1897, but has since died. Mother's mother died, aged sixty-five years, of paralytic fits, of which she had four or five. Patient is the youngest of twelve. The first ten died either at birth or were born dead, or lived only seven months; the eleventh, a boy, living.

\* A paper read before the Pathological Section of the Royal Society of Medicine on January the 16th, 1912.

The patient was operated on in 1891, and an "abscess taken out of her brain"; before the operation her left eyeball "protruded like a bladder." Since then she has had necrosed bone removed from the operation wound several times. She formerly spoke quite well and without repetition. Her first fit was in 1895. Sometimes she has as many as seven in a day, and her mother thinks she has nocturnal fits as well.

On admission she was  $49\frac{1}{2}$  in. high, and weighed 54 lb. She had

FIG. 1.



a large cicatrix over the left eye, and a scar on the lower ramus of the jaw on the left side. Left knee was enlarged, but the movements free. She was fairly nourished, and of pleasing, lively expression. Her gait was slow and with a tendency to turn round and round. Complexion clear. Palate shallow and with thick edges. Teeth small but in good condition, separated from one another. Pupils equal; they react to light. Marked amblyopia with contraction of the fields of vision; can apparently only see objects immediately in front of her; avoids large obstacles, but ran her face up against my stethoscope when it was held near her face. Appears to see better on some days than on others. No mention of nystagmus. Knee-jerk: Left normal, right brisk. Although her gait is



clumsy she is a restless little creature. Nurses an old doll, and seems much attached to it ; talks to it, hushes it, and howls when it is taken away from her.

*Speech.*—Utters her words rapidly, and never more than two or three in the form of a sentence. Nearly always repeats her words, e. g. "Can I, out there—look, look—dicky, dicky." Says "thank you" when given anything. I cannot get her to name things, and only very rarely to repeat them after me. Copied me when I said "me-ow" and "bow-wow," and when I whistled. When I say "one" and ask her to repeat after me, she says "two," and "five" when I say "three," and "seven" when I say "six." Understands what is said to her, but very difficult to fix her attention. Often noisy at night, calling out "oi—oi," and laughing. Slaps my hand and says "cry," and when I pretend to do so, she laughs. When offended exclaims "stinks—stinks."

*General character.*—An elfish little creature, very passionate and self-willed, but lovable and attractive ; became the pet of the ward.

*Sensation.*—Feels light prick on face or hands ; puts her hand to the part pricked and slaps me. Ejaculates "cold, cold," when she puts her hands in cold water.

*Fits.*—The following is a record of the fits noted during her residence in the asylum : May the 5th, 1897, at 6.20 a.m. May the 11th, 1897, at 7.45 a.m. Left arm, leg and eye twitched ; left eye open, right eye shnt. Whilst in the fit she tore at the place on her forehead with left hand. Fit said to have lasted ten minutes. May the 19th, 1897, 8.30 a.m. : I saw her immediately after ; her pupils were widely dilated, the left the larger. Conjunctival reflexes absent. I was told that during the fit the right leg was bent up and stiff. She did not pass urine. The fit only lasted a minute. 11.30 a.m. : Had another fit, during which she lay on her back with head turned to the left, eyes to the left, left arm extended from body and showing clonic spasm. Right arm bent across the chest and still. Clonic spasm of the left leg. Frothing at the mouth. The attack lasted two minutes, and afterwards she kept tapping on the floor with her right fist ; the left arm and leg were flaccid and (?) paralysed. Moved the head over to the right. Pupils widely dilated. There is mention of a fit on the morning of the 27th of this month, and one on June the 2nd at 3.30 p.m., in which the *right* side was convulsed. She had occasional fits until her death, but they are not described. She was very fretful after the attacks.

On April the 10th she fractured the shaft of the left femur. On April the 27th sore over the sacrum developed, and on April the

29th she died; temperature  $103^{\circ}$  F. Her temperature was taken twice daily from May the 18th to June the 1st, 1897, and was generally up to  $99.2^{\circ}$  F. in the evening.

*Autopsy* (a few hours after death).—Depression over the left orbit. Left knee bent and ankylosed. Lower end of the left femur enlarged and the bone was soft. Soft callus uniting the fracture at the junction of the middle and lower thirds.

*Head*: Skull thin and not dense; membrane only over a round patch, the size of a florin, in the left frontal region, just over the orbit (trephine hole).

Dura dense. Blood-vessels healthy. Circle of Willis natural. Pia arachnoid thin, somewhat cedematous, stripped easily. Excess of clear fluid beneath the dura. Marked atrophy of the convolutions, and the brain was very firm, especially the cornua Ammonis. Cortex thin and pale, ventricles not dilated. Stem firm, small; floor smooth. Cerebellum firm.

*Weights*: Right cerebral hemisphere 369 grm.; cerebellum 105 grm.; left cerebral hemisphere 366 grm.; stem 22 grm.; encephalon 862 grm.

*Thorax*: Adhesions of pleura on the right side at the apex and posteriorly. Right lung tough, congested throughout, and solid in the lower part; left crepitant. No enlarged glands. Heart small (135 grm.); valves healthy, cavities full of fluid blood, wall of the left ventricle thick and firm.

*Abdomen*: Glands of mesentery enlarged, soft. Liver (847 grm.): Mottled on section. No gall-stones. Spleen (59 grm.): Soft. Intestines healthy. Right kidney healthy (101 grm.), capsule stripped well, cortex wide; left (98 grm.), capsule stripped well, cortex narrow, colour pale.

*Films of ascending frontal convolution stained in methylene blue*: Betz cells fragile, small, and deeply stained, with large excess of pigment. Dendrites generally fractured by the pressure of making the film, they stain dull blue and show no tigroid. Cytoplasm intensely stained and very little tigroid can be made out. Apex pale, but shows no tigroid. Nucleus generally central and shows, in many cases, a paler zone around it. The very great majority of the nerve-cells of all layers are globular, and, by artificial light, appear of a pinkish colour with a blue nucleus. The apices are attenuated. The Purkinje cells are very large and globular, and the cytoplasm appears of a reddish tinge with, at one part, a small, generally oval area of a bluish tinge, with indistinct tigroid in it. The nucleus in some cells is dimly visible; the dendrites are bulky

and present varicosities; no tigroid visible in them. Only the ascending frontal convolutions and the cerebellum were examined microscopically. In view of the very exhaustive accounts published by G. Holmes, Mott and others, it is not necessary to give a detailed account of all the pathological appearances. It is enough to state that they were pathognomonic of amaurotic family idiocy or Tay-Sach's disease, and they are so distinctive that it is impossible to mistake them.

*Ascending frontal:* The chief points to be mentioned are: (1) That in sections stained with specific glia stains (Beneke's) there is very little appearance of glia proliferation. There was a very thin sclerosed rim to the first layer, and a few small glia cells in the white matter. (2) There was a very considerable infiltration of lymphocytes in the pia arachnoid and in the peri-adventitial spaces of the cortical vessels. (3) Cells: with Van Gieson stain the pigmented part stains very pale green and is granular; the cytoplasm around the nucleus is of a reddish colour. The nucleus is pale red and granular with a green rim, and the nucleolus also pale red with a sharply defined green rim. Over the cell is a dark green, somewhat reticulated covering in places (? Golgi nets). As in the film preparations so in sections, the small cells of the second layer are much less affected.

CASE 2.—B. N—, male, aged 5 years, admitted November the 22nd, 1905. The boy's father, who has a small farm in Essex, informs me that neither he, the father, nor his wife are Jewish, nor, so far as he knows, are there any Jewish ancestors on either side. The father is an Essex man.

The patient was undeveloped, weighed only  $39\frac{1}{2}$  lb., unable to stand or talk; he had a large umbilical hernia and no thumbs; a very small wart on the left hand seemed to be the only representative of a thumb. His knee-jerks are exaggerated, his plantar reflexes of the flexor type. Palate wide, teeth small and peg-like. His tongue lolls out of his mouth and he slobbers. He can swallow fairly well. He makes a clicking noise with his tongue, but cannot articulate. He is helpless, but gives no more trouble than would an infant. Stated not to be an epileptic. Beyond the statement that he was quite unobservant, there is no mention made of his sight. In the condition he was in it would obviously be difficult to test. On January the 7th there is a note that during the past week he has had twitchings of face and eyes. He now lies on his back, with flaccid limbs and absence of conjunctival reflexes. There is no plantar response and no reaction to pricking in legs or arms, but when pricked on the cheek he draws up the muscles of the stimu-



lated side, and the same with the brow. He breathes regularly and slowly, occasionally whimpers, and draws up his arms and holds them suspended for a short time. Slight vertical nystagmus. Can swallow. Temperature normal. Feet cold. On January the 8th, 1906, he died.

*Autopsy* (four and a half hours later).—Poorly nourished ; no bed-sores. Spinal curvature in the lower dorsal region.

Dura mater very adherent to the skull, especially on the right side. Blood-vessels healthy. A firm, white subdural membrane, one eighth of an inch thick, covered the cerebrum on both sides, and lined the floor of the middle and posterior fossæ. There was a great excess of blood-stained fluid. The pia arachnoid was very thick and milky over the vertex, and stripped readily. Great excess of sub-arachnoidal fluid. The gyri were very shrunken, tough, and discoloured brown in the right superior parietal lobe. The cortex was narrow and dark coloured. The lateral ventricles were dilated and filled with fluid. Basal ganglia very tough. Pons very tough. Ependyma smooth. Cerebellum firm. Spinal cord very firm ; its central canal for a short stretch in the cervical region was dilated, and measured 3·5 mm. by 1·75 mm.

*Weights* : Encephalon, 993 grm. ; spinal cord, 25 grm.

*Thorax* : There was a pneumonic patch in the left lung, no pleural adhesions. The heart was very small (70 grm.), the mitral cusps thick and puckered ; the aorta healthy.

*Abdomen* : Liver (720 grm.) was tough, and on section showed pale patches. Gall-bladder full of bile, no stones. Spleen (95 grm.) tough. Kidneys pale, capsules stripped well, weighed together 120 grm.

Portions of the ascending frontal convolution, the cornu ammonis, the thalamus (through the anterior tubercle) and the cerebellum were stained by my pseudo-vital method. In the ascending frontal region the striation was good ; there was no obvious paucity of nerve-cells.

The method used differentiates two kinds of nerve-cells in grey matter : (1) The ganglion or pyramidal system, which represents the orientated cells of all the layers, and (2) a series of darkly stained, generally small cells found scattered throughout all the layers. Of these two classes the ganglion cells were chiefly affected, and the Betz and third layer cells most of all. The small cells of the second layer were those least affected. Many of the darkly stained or intercalary nerve-cells appeared fairly intact, and this condition is of interest as we note a very large number of beaded, intercellular neuro-fibrils in the matrix of the grey matter, and it is

from the intercalary cells that, in the opinion of the writer, these beaded neuro-fibrils are derived. The amount of gliosis observed in the section was insignificant.

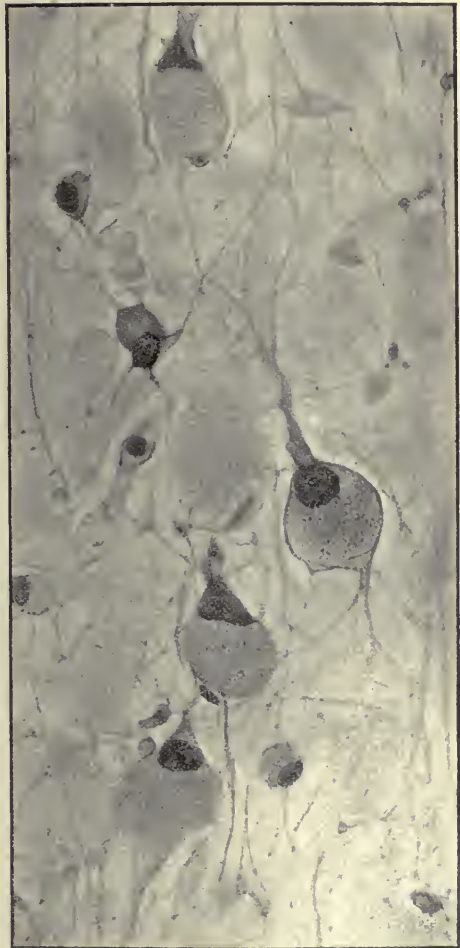
*Cornu ammonis* (vide Fig. 2) : The ganglion cells of the stratum pyramidalum are affected as deeply and as universally as those of the ascending frontal. The cells of the stratum granulosum are much less affected, apparently not more than one in ten. Many subcortical nerve-cells are seen and they are all affected in the same way as the cortical cells. In one part of the white matter adjacent to the stratum granulosum, there is a small patch of glia cells, but elsewhere none are visible.

*Thalamus* : In the thalamic section every one of the ganglionic nerve cells is deeply affected, probably to a greater extent even than the cortical cells.

Dr. Mott in his article\* figures an hexagonally reticulated appearance of the nerve-cell, which he describes as an intra-cellular network. A similar hexagonal structure is well shown in my sections, especially in the thalamus. I am inclined to think that it represents the meshes of the Golgi net enveloping the cell body,

and not an intra-cellular structure. This view is strengthened by the appearance often to be observed in the swollen dendrites more especially of the Purkinje cells, where, at the centre of the swelling, *i.e.* at the most prominent part, the meshwork is absent, whilst it is well

FIG. 2.

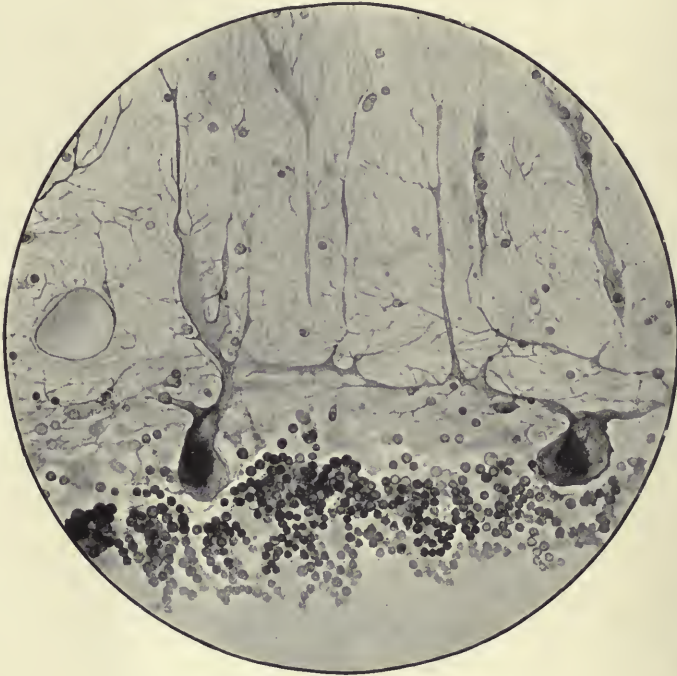


\* 'Proc. Roy. Soc. Med.,' 1911, iv, Pathological Section, pp. 147-198.

seen over the less swollen parts, an appearance suggesting that the plane of the section has passed through the most convex portion of the dendrite, and denuded this part of its netlike envelope. No intercalary cells could be identified in this region. There was no increase of neuroglia, the periadventitial spaces contained a considerable number of lymphocytes.

*Cerebellum* : There was great fibroid thickening of the meninges. All the Purkinjé cells show the characteristic changes (*vide* Fig. 3),

FIG. 3.



but the final terminal dendrites are abundantly covered with *thorns*. Very many, probably the majority, of the intercalary cells of the molecular layer are affected. The neuroglial fibres of Bergmann are visible in places, and there are some glia cells seen in the white matter. The granules show no alteration.

*Spinal cord (Nissl stained sections)* : The anterior horn-cells are large and numerous. All show the change, but to a less degree than the brain-cells, *i. e.* around the nucleus is a larger region containing fairly normal tigroid. The nucleus is rather small and angular but clear. No gliosis noted.



In Weigert-Pal preparations the swollen (pigmented) part of the cell body shows coarse brown granules, and in those cells where the change is more pronounced these granules become smaller, paler and sparser, and frequently in the centre of the mass there is a quite colourless, structureless area. This advanced stage is much more general in the cervical than in the lumbar region. In Marchi preparations the pigment granules are not darkly stained, and often the centre of the pigment region is paler than the cytoplasm.

*Central canal* : In the cervical region, for a short tract, this canal was enormously distended so that it measured 3·5 mm. on transverse section. It was lined throughout by cylindrical epithelium. In the lumbar region the canal was small.

There is well-marked old degeneration of the pyramidal tracts, most marked in the cervical region.

The histological features of Tay-Sach's disease are pathognomonic, so that although in neither of my cases was there evidence of the disease affecting more than one member of the family, and in neither were the eyes examined for the characteristic cherry-red spot on the macula lutea, we may have no hesitation in accepting them as instances of this disease on the histological findings alone.

So far, according to the recent article of Carlyll and Mott in the 'Proceedings of the Royal Society of Medicine,' March, 1911,\* although there is a record of over a hundred cases, no genuine instance of the disease has been recorded in any but a Jewish child. At first I thought both my cases were exceptions to this rule, but inquiries elicited the information that the father of Case 1 was a Christian Israelite, and, in spite of my informants the patient's brother's unwillingness to admit his Hebrew extraction, I think we must regard this case as no exception to the rule. The other, however, occurred in the son of an Essex man, who assures me that neither he, his wife, nor any of their forbears, so far as he knows, have, or have had, any Jewish blood in them. So that we may fairly certainly conclude that Case 2 is an exception to the hitherto unbroken rule, that only Jewish children suffer from the disease. This fact alone would amply justify me in publishing the case, but there are also other points of interest to be noted in both, in respect to the age of the patients, the pathological appearances as seen by special staining, and the ætiology of the disease.

As regards the age, both were far beyond the limit generally assigned to this disease. Carlyll, in the paper just quoted, states that it is justifiable to tell parents that children with this affection

\* *Ibid.*

will not reach the age of three years. My first case was fourteen when she died from an intercurrent complaint; my second was over five years.

Mott takes exception to the name of "idiocy" applied to the disease; but his objections lose their force when this name is applied only to cerebropathic states in infants either before, at, or shortly after birth. This is the sense in which many, including the writer, now use the term. So that instead of idiocy being only a severe form of imbecility, it has no connection with imbecility, and lies at the opposite extreme in the classification of insanity, that is to say, among the traumatic (using this term in its widest sense) insanities. And the very lack of developmental defects, on which Mott rests his objections to the term "idiocy," become strong evidence why the disease from the cerebropathic point of view should be termed "idiocy." However, it should be noted that Case 2 did show certain features, which might be looked upon as stigmata of degeneration—to wit, absence of thumbs and dilatation of the central canal of the cord.

Gliosis, using the term as connoting an overgrowth of neuroglia in contra-distinction to other glia cells (mesoglia), is evidently not an essential feature of the disease. It was present to only a slight pathological extent in both my cases, and was absent in all the cases described by G. Holmes,\* and indeed it has, with very few exceptions, been absent or inconsiderable in all the cases so far reported.

I look upon the mesh-like fragments seen on the swollen cells and their dendrites as Golgi nets, and I have produced evidence† that these nets are a derivative from the mesoglia cells which occupy the pericellular space. If the accumulation of nuclei in these spaces are nuclei of mesoglia cells, then an increase of this tissue is, if not an essential, at all events a very common or constant feature of the disease. The abundance of beaded neuro-fibrils in the cortex in Case 2 is of interest, considering the very extensive condition of alteration in the ganglion cells. This may to some extent be accounted for by the lesser participation apparently of the intercalary or darkly stained cells in the diseased process, if, as the writer believes, these beaded neuro-fibrils are given off by these cells.

A word as to the ætiology. Can syphilis be so certainly excluded from the causation as Carlyll would have us believe? In both my cases there were points suggestive of syphilis. In Case 1 the mother gave birth to ten children, who were either stillborn or only lived a

\* 'Brain,' 1906, xxix, pp. 180-208.

† *Ibid.*, 1904, xxvii, pp. 64-83; 'Rev. Neur. and Psych.,' 1905, iii, p. 773.

few months, before giving birth to the patient. The character of the patient's bone-lesions was suggestive of syphilis, as also the proliferation of lymphocytes in the peri-adventitial spaces of the vessels of the brain cortex; In Case 2 the small, peg-like teeth and the peri-adventitial proliferation around the cortical, thalamic and caudal vessels; then, further, G. Holmes, in the same number of the 'Proceedings of the Royal Society of Medicine'\* already quoted from, records a case of amaurotic idiocy, where also the peri-adventitial cellular infiltration was, as the author remarks, suggestive of congenital syphilis, and this case was the brother of one of Carlyll's cases. Mott states that he has examined all the tissues of the body in several cases and could not find any glandular lesion. This is a somewhat gigantic task, and it is quite possible that, even granting the lesion to be visible to the microscope, it may have escaped notice. So that the suggestion made by Gordon,† that the disease owes its origin to a failure of metabolism, the result of some gland lesion or anomaly, is not one to be hastily discarded.

Mott supposes that the changes found in the nerve-cells are due to a failure in the nuclear material to build up the nucleoprotein Nissl substance out of lipid substances contained in the cytoplasm, which have first to be decomposed by a nuclear ferment. The pigment, he states, is a fatty substance of the nature of a lipid, as it stains by all the methods which stain the myelin sheath, and with Scharlach red, a specific fat stain, it colours more or less intensely in proportion to the degree of swelling and morphological change. He notes that it stains *unsatisfactorily* with Marchi's stain. In my preparations stained by osmic acid after bichromate hardening I found an entire failure of the pigment to stain with osmic acid—in parts it was even lighter than the cytoplasm. Mott attempts to explain this failure to stain, or partial failure (in his cases), by assuming that the process of decomposition of the lipid into glycerophosphoric and oleic acids is incomplete. Mott's hypothesis is ingenious, though how far his efforts to account for the unsatisfactory staining of the pigment with Marchi in his cases are convincing is a moot point. I should like to accept them, but find it difficult to believe that if, as he supposes, there is a process of decomposition going on, at least in places it would not have arrived at the stage when the pigment would be in a condition to react to osmic acid in the way characteristic of non-phosphorised fats. But granting his explanation to be substantially correct, it is still most compatible with

\* 'Proceedings,' 1911, iv, pp. 199-204.

† 'New York Med. Journ.,' 1907, lxxxv, p. 294.



a failure in metabolism due to some gland deficiency or anomaly, and if so, then amaurotic idiocy must be ranged alongside the idiocy produced by defective thyroid secretion, and perhaps, like this, it will eventually yield, in part at least, to therapeutic measures.

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## THE PATERNAL TRANSMISSION OF SYPHILIS.

By C. F. MARSHALL, M.Sc., M.D., F.R.C.S.

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IN 1529, Phillipus von Hohenheim (otherwise known as Paracelsus), writing on the subject of syphilis, remarked "*Fit morbus hereditarius, et transit a patre ad filium.*"

From that time the paternal transmission of syphilis was generally accepted by the majority of syphilologists, till in 1903 it was denied by Matzenauer, who attempted to prove that there was no evidence in its favour, and that transmission always took place from the infected mother. More recently, microbiological and serological evidence has been brought to bear on the question.

In dealing with this subject we have three problems to consider:

(1) Is it possible for syphilis to be transmitted from father to child by spermatic infection of the ovum?

(2) Is it possible for a healthy mother to be infected from a foetus resulting from spermatic infection of the ovum, *i. e.* by conceptional syphilis (the "*choc-en-retour*" of Diday)?

(3) Is it possible for a healthy mother to bear a syphilitic child infected by the father without becoming infected herself?

These three problems are all interdependent, for the occurrence of conceptional syphilis implies infection of the foetus through the father. The point of controversy is whether the mother of a syphilitic child is infected by direct contact from the father in the usual way, and is, therefore, herself always syphilitic, or whether the syphilis of the child may be due to spermatic infection of the ovum without infection of the mother. In the latter case there are three possibilities: (i) The mother may be infected from the foetus (conceptional syphilis); (ii) she may be rendered immune by the passage of antitoxins from the foetus; (iii) she may be unaffected.

In the solution of these problems there is clinical, microbiological, and serological evidence to be considered.

*Clinical evidence.*—The following are the chief clinical arguments in favour of paternal transmission: (1) A woman may bear a syphilitic child by her first syphilitic husband, and afterwards healthy children from a non-syphilitic husband. (2) After a series of syphilitic children a healthy child may be born after mercurial treatment of the father only.

Against these Matzenauer brings forward the following counter-arguments: (1) He considers that the mother of a syphilitic child is always infected directly by the father, so that the question of paternal transmission only applies to the first child; after this the influence of the father cannot be proved. He explains the subsequent birth of healthy children by alternating transmission, which is sometimes observed in mothers who are known to be syphilitic. The intensity of transmission does not always correspond to the intensity and age of the mother's disease; severely affected children may be born from a mother with latent syphilis, and healthy or only slightly affected children from a mother with recent syphilis. (2) Assuming that the mother of a syphilitic child is always herself syphilitic, treatment of the father is immaterial, and the birth of healthy children after such treatment is also explained by alternating transmission. (3) There are contrary observations which show that apparently healthy mothers may give birth to syphilitic children, not only from the first syphilitic husband, but also from a second or third healthy husband.

With regard to alternating transmission, apart from the effect of treatment, this may be explained by a recrudescence of the disease in one of the parents or by an intervening genitor. Hochsinger states that alternating heredity is very rare, and he has only observed four cases where a healthy child was born in the middle of a series of syphilitic pregnancies. He explains these cases by an intervening genitor, the healthy child being procreated by a non-syphilitic father.

As regards the instances where a mother gives birth to a syphilitic child by a second healthy husband, Hutchinson thinks it possible that these may be explained by telegony, *i. e.* that the first impregnation influences subsequent conceptions by another husband. He suggests that the virus is stored in the ovaries and influences subsequent impregnation.

It thus appears that Matzenauer's arguments against paternal transmission, although plausible, can be met with explanations which are equally plausible, if not more probable.

The two principal assumptions on which Matzenauer based his denial of paternal transmission are : (1) That the semen is not contagious, and that there is no infective disease in which the semen has been proved to be contagious, or to contain the causal micro-organisms ; (2) that the immunity of the mother of a syphilitic child to infection with syphilis (Colles's law) shows that she is herself infected with the disease.

As regards the first point, this has been contradicted by the experiments of Finger and Landsteiner. These observers successfully inoculated two apes with the semen obtained by expressing the seminal vesicles of a patient with secondary syphilis. In another case a positive result was obtained by inoculating an ape with semen from a case of syphilis of three years' duration. They conclude that the semen is always contagious in the secondary period, even when the testicles are apparently healthy, and in tertiary syphilis when the testicles are diseased.

However, the fact that the semen may contain the virus, although in favour of paternal infection of the ovum, does not exclude the possibility of direct infection through an abrasion of the vulva, vagina or uterus.

As regards the second point—the immunity of the mother of a syphilitic child to infection—Matzenauer does not believe in the occurrence of infection of the mother from the foetus, or syphilis by conception, but considers that she is always infected directly by the father, and that the chancre escapes notice. But this will not account for the frequent absence of secondary symptoms in such cases, which would assuredly be noticed if infection took place in the usual way.

The negative results of inoculation of mothers of syphilitic children by Caspary and Neumann is in favour of Colles's law of immunity. On the other hand, cases of exception to this law have been reported by Finger and others, where mothers are said to have contracted chancres of the nipple by suckling their syphilitic infants. Matzenauer, however, after investigation of thirty cases of this kind which had been published, came to the conclusion that none of them fulfilled the necessary conditions. He found that half the cases were incompletely recorded ; that in some cases the parents were healthy, and the child acquired syphilis after birth, and then infected the mother ; that in other cases the symptoms in the mother were recurrences of syphilis contracted before the birth of the child. Fournier and Hutchinson say that, in all their long experience, they have never met with an exception to Colles's law.



Recent research in immunity in syphilis indicates that immunity is relative and not absolute, so that apparent exceptions to Colles's law may, in some instances, be due to reinfection.

Evidence of greater value is obtained by prolonged observation of cases. Hochsinger has recorded the histories of seventy-two families in which the fathers were syphilitic, but the mothers showed no sign of the disease during periods of four to nineteen years; fifty cases were under observation for six years. It may, of course, be said that these mothers have latent syphilis, and will show tertiary symptoms later on, but it is certainly unusual for a patient with syphilis to show no symptoms for such long periods.

*Microbiological evidence.*—More recent arguments which have been adduced against paternal history are: (1) that the spirochæte is too large to enter the spermatozoon; (2) that it is too large to enter the ovum without destroying it. The first point may be disregarded; there is no need for the spirochæte to enter the spermatozoon, for it may be conveyed in the fluid part of the semen. The second point requires more consideration. That spirochætes do actually enter the ovum has been shown by Levaditi and Hoffmann, who found them in the ova in cases of hereditary syphilis. That the spirochæte, having entered the ovum, must necessarily destroy it, assumes that this microbe always exists in the same morphological state. However, it has been shown by Balfour that under certain conditions the *Spirochæta pallida* sheds granules, which he regards as probably of the nature of spores. The same process has also been observed in other varieties of spirochætes by Leishman and others. Now this spore-formation probably occurs when the spirochæte finds itself in an unsuitable medium, and is an attempt to perpetuate its species by assuming a more resistant form. Balfour observed the phenomenon after treatment with salvarsan—no doubt an unsuitable medium for spirochætes to flourish in, but one which apparently does not necessarily kill them. Now, it has been shown by Ehrmann and Levaditi that the *Spirochæta pallida* has a predilection for the lymph-spaces of the connective tissue rather than the cells of organs, so that the ovum would not be a suitable medium for it to grow in. It is, therefore, conceivable that the spirochæte after entering the ovum sheds spores, and that these develop into adult spirochætes with the growth of the embryo.

Assuming that infection of the ovum by the spirochæte can occur, the next question to consider is whether the ovum thus infected can give rise to a syphilitic foetus without infection of the mother. In other words, can the spirochætes, their spores or their toxins, pass

the placental barrier? On this depends the occurrence of conceptional syphilis.

Strauss and Chamberland showed that anthrax bacilli can pass through the placenta, so it is quite possible that the spirochæte, or at any rate its spores, may do the same.

Assuming the truth of conceptional infection, we may, therefore, conceive it as occurring in two forms, or rather two degrees of intensity. In the first form—syphilis by conception—the mother shows signs of secondary syphilis during pregnancy. In the second form—latent conceptional syphilis, the disease remains latent for a time, but may manifest itself in later years by tertiary lesions. The difference between these two forms was explained by Fournier as due to difference in the quantity of the virus—a large quantity of virus causing syphilis by conception, and a smaller quantity latent conceptional syphilis with immunity to infection. In the light of modern research we may explain the difference by proliferation of spirochætes in the first case, and by spore-formation in the second case. The passage of toxins alone will not account for the long latent period which generally elapses before the appearance of tertiary syphilitic lesions in the case of latent conceptional syphilis.

Baisch found spirochætes in the maternal part of the placenta in cases of congenital syphilis, but came to the conclusion that they were of maternal origin, and not due to passage from the foetus. His investigations and conclusions will be mentioned with the serological evidence.

*Serological evidence.*—It has been shown by several observers that the majority of the mothers of syphilitic infants give a positive Wassermann reaction. Leroux and Labbé obtained it in 71 per cent. of cases, whether the mothers showed signs of syphilis or not. Other investigators give similar figures. From this fact it has been somewhat illogically inferred that all mothers of syphilitic children are themselves syphilitic, and that this explains Colles's law of immunity, the mothers being immune because they are always syphilitic. But if we examine the question more closely we shall see that this is by no means necessarily the case.

Assuming that the Wassermann reaction is evidence of syphilitic infection, the statistics only show this reaction in about 70 per cent. of the cases. There still remain 30 per cent. to be accounted for. Now these figures approximate closely to Fournier's statistics of paternal and maternal transmission of syphilis to the offspring. His figures are 84 per cent. for syphilis of maternal and 37 per cent. for syphilis of paternal origin. It is therefore not impossible that the

70 per cent. of mothers who give a positive Wassermann reaction represent cases of maternal transmission, while the 30 per cent. who fail to give the reaction may represent cases of purely paternal transmission without infection of the mothers.

However, the matter is not so simple as this, for it is probable that the majority of mothers are infected either with active or latent conceptional syphilis if paternal transmission occurs. Leroux and Labbé state that they always obtained a positive reaction in the mother when this was also present in father and child. In any case a positive Wassermann reaction in the mother is no argument against paternal transmission.

Baisch has attempted to solve the problem by serological examination of the mothers and infants, combined with the examination of the placentas for spirochætes. He remarks that there are three explanations of the fact that the majority of mothers of heredo-syphilitic infants give a positive reaction: (i) the mothers may have latent syphilis; (ii) the complement-binding substance which produces the reaction may be derived from the fœtus and pass through the placenta into the maternal circulation without causing actual syphilis; (iii) the mothers may be immunised, if the complement-binding substance in the maternal circulation is of the nature of an antitoxin. He concludes that the first explanation is the correct one for the following reasons: (i) The presence of spirochætes in the maternal part of the placenta; (ii) the persistence of the positive reaction several months after the birth of the child; (iii) the fact that the reaction may be positive in the mother and negative in the child, and inversely. According to Baisch, all this signifies that the complement-binding substance is formed in the organism in which it is found, and does not traverse the placenta.

Leroux and Labbé, on the other hand, consider that maternal syphilis is more often derived from the fœtus (conceptional syphilis) than by direct infection from the father.

Baisch apparently infers from the results of his investigations that the mother of a syphilitic child is always syphilitic herself, and does not derive the disease from the fœtus by conceptional syphilis. But in arriving at this conclusion I think he attaches too much importance to the evidence of the Wassermann reaction. The persistence of the reaction in the mother after the birth of the child may be in favour of her being actually syphilitic, but it is no evidence against conceptional syphilis, still less against paternal transmission. Again, if the reaction is sometimes positive in the mother and negative in the child, and inversely, this is only in accordance with



general experience of the reaction, which is known to be subject to considerable variations, the causes of which are not accurately known. Not only this, but negative reactions are known to occur sometimes in patients with obvious symptoms of syphilis. The Wassermann reaction may be evidence of syphilitic infection, and may be useful in diagnosis when taken in conjunction with clinical evidence, but to attempt to decide such problems as the paternal transmission of syphilis and syphilis by conception on the sole evidence of a variable and uncertain laboratory test is, I think, going too far. As regards the presence of spirochaetes in the maternal portion of the placenta, they might equally well have come from the foetus.

#### CONCLUSION.

I think we may conclude from the above considerations that there is not sufficient evidence to justify the renunciation of the doctrine of the paternal transmission of syphilis. This doctrine is strongly supported by clinical evidence, while theoretical considerations are quite as much in favour of it as against it. As Sir Jonathan Hutchinson remarks, "It is a matter of constant experience that the father of a syphilitic infant is known to have had the disease before marriage, whilst not a symptom has ever been observed in his wife. It is improbable in the highest degree that a large number of married women should acquire syphilis in its primary form, pass through its secondary stages, and yet never know it. Yet this is the supposition which we must adopt, not once nor twice, but as being an every-day occurrence if we reject the belief that a syphilitic father may beget a syphilitic child quite independently of any previous infection of its mother."

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## DIABETES INSIPIDUS IN A BOY WITH POSITIVE WASSERMANN'S REACTION; REMARKS ON POLYURIA IN CHILDREN AND INFANTILISM.

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THE patient,\* A. B—, is an active, bright and intelligent boy, aged 10 years. He is somewhat small for his age: height 115·5 cm.; weight 19 kilog. (The average height for a boy aged ten years is about 131·4 cm., and the average weight 30·6 kilog.) Polyuria and abnormal thirst (polydipsia) were first noticed when he was in his third year, and up to his seventh year he used to suffer from nocturnal incontinence of urine. Otherwise he seems to have enjoyed good health and to have had no bad illnesses. His urine averages about 4000 c.cm., or rather more, in the twenty-four hours; it is of very low specific gravity (1001–1004), pale, and free from albumen, sugar, and tube-casts. There is no evidence of chronic interstitial nephritis, nor of any tumour in the position of the kidneys. Brachial systolic blood-pressure (Riva-Rocci): about 100 mm. Hg. Blood examination on February 20th, 1912: Hæmoglobin, 95 per cent. of the normal; red cells, 5,800,000 to the c.mm. of blood; white cells, 17,900, of which 2·2 per cent. were eosinophiles; specific gravity of the blood, 1039. The thyroid gland appears to be small. A skiagram of the base of the skull, kindly taken by Dr. G. Dorner, shows the sella turcica of normal dimensions, or possibly slightly larger than the average.

There is no history of diabetes insipidus in any other members of the patient's family. He is the eldest of a family of eight children of healthy parents. The mother says that she has had no miscarriages, but that the child coming next to the patient was born dead at full term. Then came the six other children, all still living. Though there is no history pointing to syphilis, the patient's blood-serum gave a positive Wassermann's reaction when kindly tested at the Lister Institute on February 24th, 1912.

Treatment by thyroid feeding and mercurial inunction has so far given a negative result in regard to the polyuria. The exact amount of common salt in the diet seems also to make very little difference in the amount of urine passed.

The above-mentioned Roentgen ray examination of the skull does

\* The patient was shown at the Medical Society of London, Clinical Meeting, March the 25th, 1912.

not confirm the view that diabetes insipidus is due to disease of the "pars intermedia" of the hypophysis cerebri.\*

There are two classes of polyuria in children. The first class is due to chronic interstitial nephritis and may be associated with congenital syphilis.† The second class may likewise be associated with congenital syphilis, but (as in the present case) there are never any signs of chronic interstitial nephritis and the condition is one of true diabetes insipidus.

In both classes there is sometimes a certain degree of infantilism likewise present, but when renal disease and infantilism have both been pronounced there appears to have been no definite evidence of syphilis, as far at least as one can judge from the cases recently brought forward at the Royal Society of Medicine and elsewhere.

Dr. H. Morley Fletcher's case‡ was that of a boy, æt. 6 years, who was said not to have grown since the end of his first year. He passed a large amount of urine of low specific gravity, in which there was albumen (1·6 per mille) and in which granular tube-casts were occasionally found. Wassermann's reaction was negative. At the Annual Meeting of the British Medical Association, 1911, Dr. Leonard Parsons§ described the case of a girl, æt. 6½ years, whose bodily and mental development was that of a child of three years or even younger. She had suffered from wasting, excessive thirst, and polyuria. The urine, of specific gravity 1010, showed a faint trace of albumen, no tube-casts or renal cells, no sugar. There was no evidence of arterial disease and there was no parental history

\* Compare E. Frank, "Ueber Beziehungen der Hypophyse zum Diabetes Insipidus," 'Berl. klin. Wochenschr.,' 1912, xlix, p. 393.

† On the possible and at least occasional connection of chronic interstitial nephritis with syphilis in children, see—J. E. H. Sawyer, "The Ætiology of Granular Kidney of Childhood," 'St. Thomas's Hosp. Rep.,' London, 1906, new series, xxxv, p. 459, and "Chronic Interstitial Nephritis in Children," 'Birmingham Med. Rev.,' 1903, liv, pp. 511, 549; Leonard Guthrie, "Chronic Interstitial Nephritis in Childhood," 'Lancet,' 1897, i, pp. 585, 728, and "Syphilitic Nephritis," 'BRIT. JOURN. CHILDREN'S DISEASES,' 1908, v, p. 90; George Carpenter, "Syphilitic Nephritis in Infants," *ibid.*, 1908, v, p. 94 (contains references to his earlier writings on the subject); G. A. Sutherland and J. W. Thompson Walker, "Syphilitic Endarteritis and Nephritis in an Infant," 'Reports of the Society for the Study of Disease in Children,' London, 1903, iii, p. 134, and "Two Cases of Interstitial Nephritis in Congenital Syphilis," 'Brit. Med. Journ.,' 1903, i, p. 959; Cassel, "Ueber Nephritis Heredo-syphilitica," 'Berl. klin. Wochenschr.,' 1904, xli, p. 558; J. L. Hirsch, "Chronic Interstitial Nephritis in the Young," 'Amer. Journ. Med. Sci.,' Philadelphia, 1904, cxxvii, p. 1056 (refers to the various possible ætiological factors).

‡ H. Morley Fletcher, 'Proc. Roy. Soc. Med.' (Section for Disease in Children), 1911, iv, p. 95.

§ Leonard Parsons, 'Brit. Med. Journ.,' 1911, ii, p. 481.



pointing to syphilis. At the necropsy the kidneys were extremely small and fibrosed, weighing together less than an ounce. The heart was unusually large. There was broncho-pneumonia present in both lungs. Dr. Reginald Miller's case\* was that of a boy, æt. 9½ years, who was of about the same size as his younger brother aged four years. He suffered from thirst and marked polyuria, and there was thought to be slight hypertrophy of the left ventricle of the heart, but the blood-pressure did not appear abnormally high. The urine, of specific gravity 1002-1004, showed a decided trace of albumin, and on one occasion a granular tube-cast was found in it. Wassermann's reaction was negative.

At the discussion on Dr. Miller's patient Dr. Langmead referred to two cases in which post-mortem examination had been made. One was that of an extremely anæmic man, aged 23 years, who was under-sized and poorly developed mentally. The Wassermann reaction was negative. His urine was albuminous, and he ultimately died from the anæmia. The necropsy showed slight fibrosis of the kidneys as well as fibrosis of the spleen and liver. The other case was that of a girl, aged 19 years, undersized and mentally weak, and likewise suffering from severe anæmia, which dated from early life. There were definite polyuria, polydipsia and albuminuria. The Wassermann's reaction was negative. The anæmia ended fatally, and the necropsy showed marked chronic interstitial nephritis and also fibrosis of the spleen. One kidney weighed ½ ounce, the other one ounce. Dr. Naish, at the same meeting, referred to post-mortem examinations on two boys, one aged 16½ years, who looked as if he was only about ten years old, the other aged 9½ years, though appearing only about four years old. In both patients there was a history of polyuria and polydipsia for a considerable portion of their lives, and there was no evidence of syphilis. In both cases the kidneys were very small and fibrotic, weighing about 1½ ounces each.

Such cases of infantilism with polyuria due to chronic interstitial nephritis are more rarely met with than cases of polyuria (diabetes insipidus) associated with more or less infantilism (bodily or mental or both bodily and mental infantilism) without evidence of organic renal disease. In the latter class nocturnal enuresis (itself an infantile phenomenon) may likewise be present, and, just as nocturnal enuresis tends not rarely to run in certain families, so also two or more members of the same family are sometimes affected with the diabetes insipidus. The occasional connection of diabetes

\* R. Miller, 'Proc. Roy. Soc. Med.' (Section for Disease in Children), 1912, v, p. 38.

insipidus with syphilis has been long recognised, and Professor Arnozan,\* of Bordeaux, has recently shortly discussed the subject. M. von Zeissl,† in describing a case in 1901, referred to a good deal of the older literature on the connection of diabetes insipidus with either inherited or acquired syphilis. Seigneurin,‡ in 1903, collected twenty-eight cases of diabetes insipidus associated with inherited or acquired syphilis and thirty-five cases associated with tubercnolosis. T. B. Fletcher,§ in 1904, thought that four out of his nine cases of diabetes insipidus were due to syphilis, and A. Valphiades|| (1907) is amongst those who have reported cases cured or benefited by mercurial injections. It is quite clear, however, that in cases of diabetes insipidus, and also, of course, in cases of polyuria due to kidney disease, great caution should be exercised in regard to the use of antisypilitic methods, and especially so in children, who are very liable to serious complications from mercurial treatment.

## OBSERVATIONS ON A NEW GALACTAGOGUE.

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IT is well known in dietetics and therapeutics that the food of the animal as well as the season of the year modifies the quality and the quantity of the milk secretion. Goats' milk, for instance, is said to be astringent after the animals have eaten oak leaves or pine leaves, and to be specially beneficial as a gastric sedative after they have eaten the wild hellebore. When a particular therapeutic action on a milk-dieted invalid was desired, it was customary to prescribe, not only for the infant or invalid, but for the animal from whose milk the diet was to be provided. A well-known historical instance occurred in the practice of the famous Italian physician of Milan, Jerome Cardan. He was called to Scotland to attend Mary, Queen of Scots, about the end of the sixteenth century. Advantage was taken of his presence in Edinburgh to

\* Arnozan, "Diabète insipide d'origine syphilitique," *Journ. de Méd. de Bordeaux*, 1912, xlii, p. 165.

† M. von Zeissl, "Diabetes Insipidus infolge von Syphilis," *Wien. Med. Presse*, 1901, xlii, p. 1489.

‡ Seigneurin, 'Thèses de Lyon,' 1903-4, No. 46.

§ Fletcher, "Nine Cases of Diabetes Insipidus," *Trans. Assoc. Amer. Physicians*, 1904, xix, p. 247.

|| Valphiades, 'Revue de Médecine,' Paris, 1907, xxvii, p. 297.

get him to attend the Archbishop of St. Andrews, John Hamilton, whose brother was heir to the throne of Scotland, but who never had robust health, and was at that time suffering from some lung disease, probably phthisis. He treated him with beef juices made of blood-serum, chicken broths flavoured with cinnamon, wine, and ginger, but milk was the principal "sheet-anchor" in the dietary. The physician contended that milk kept the stomach open and cleared the brain, and he ordered the Archbishop to drink from two to four pints of asses' milk, either all at once, or in several doses with no greater interval than an hour. The ass was treated also on the ground that the quality of the food of the animal modified the quality of the milk ordered for the sick prelate. The animal was ordered, therefore, to be provided with mild herbs, such as mallow, juicy beet-roots, rose blossoms, as well as fresh corn and barley, and the mother and the foal were ordered to run together freely in a meadow daily. This prescription may afford a hint to those who are interested in the milk treatment of consumptives at the present day.

It is well known that a cow fed on turnips flavours not only the milk, but the fat derived therefrom. New clover gives odour to the milk. Similarly with leeks, onions, garlic, showing that the active principles are secreted by the milk gland. Physicians in earlier days were most careful to select milk from cows fed on vegetables containing aromatics and sweet-smelling essential oils. The oils of dill and aniseed supplied to the mother make the child feed better, and reflexly stimulate the milk secretion. Lily oils, rose oil, were favourites in past days. Other substances give the milk an unpleasant taste. Oil of onions is an example of this, and at the same time acts as a soporific, being used in eastern countries by mothers who wish to send their babies to sleep. Similarly, breast-fed children are quieted by the mother taking opium or swallowing other narcotics which affect the milk.

Among the articles from the vegetable kingdom which have long been held in esteem for increasing the milk supply, other than local irritants, are beans, peas, and lentils; cabbage was recommended by Hippocrates, and the carrot, beet-root, cresses, and chicory, by Paul of Ægina; barley in the form of malt and hops or beer had a great reputation, and was one of Professor Tarnier's favourite galactagogues, and Dr. Carron de la Carrière speaks highly of the milk-producing properties of galega, the efficacy of which is obvious judged by the criterion of the infant, which rests and sleeps better, and increases in weight when this is administered to the mother.



These agents, although theoretically proper, are at present but little used, either by mothers or nurses, and beyond these, the pharmacopœia has little to offer to the medical practitioner, or the midwifery nurse, in the way of milk-inducing agents.

One of the modern preparations—Lactagol—deserves the consideration of the profession for its favourable action on lactic supply is an extract of the grains of the cotton seed. This product has no toxic properties; as much as 50 grm. can be taken each day without inconvenience, and the analysis of mother's milk after a course of this product can be clearly shown to contain an increased quantity of fat and casein. In properly regulated quantities and under the supervision of the doctor this product has been found to have remarkable galactogenic properties.

I have had the privilege of putting this preparation to pretty severe tests in the case of suckling mothers. One mother who had never been able to continue suckling for more than four months has by means of this preparation been able to suckle her third baby for nine months, the baby being plump and thriving, to the great delight of the mother. There was never any difficulty in getting the nursing mother to take this preparation. The milk supply has been abundant. The mother has never felt so well during the period of lactation with any of her former children. Naturally the administration of preparations of this nature is begun with a considerable degree of scepticism; but when case after case in which it has been administered gives evidence of undoubted efficiency, one soon comes to the conclusion that there must be some galactogenic properties in it, and it is a matter of supreme importance, bearing in mind that artificial feeding is the most potent cause of the maladies of early infancy, and the best recognised factor in the production of infantile mortality.

The construction of this product has been described minutely by Dr. Barlerin of Paris. The seeds are reduced to a fine powder, the oil and resinous products extracted by ether and benzine. The active principle is obtained by infusing the residue, and getting rid of the colour and of the odour. The resultant liquid is concentrated *in vacuo*, and the blocks are crushed into powder. This powder is free from cellulose, oil, and all other indigestible products. The finished product is free from all toxic properties, and can be taken in gradually increasing doses. It appears from experiments, which have been conducted in France, Germany, and in this country, that the active principle, so far as the milk-producing properties is concerned, is edestine.

Experiments have been extensively made with this product on domestic animals. Three days after the commencement of the treatment it was noticed that the quantity of milk had increased by 30 per cent., and the fats and the solids had increased likewise to a wonderful extent. This was the first indication of its application as a galactagogue in the case of nursing mothers in whom the lactic secretion was insufficient.

Many observations have been made on cases in which this product has been administered, of which the following may be taken as an example. A lady with her second child noticed at the fifth month that the breasts were becoming soft, and the milk diminishing in quantity, and the child, though suckling oftener and longer, remained unsatisfied. She was put upon this preparation, and after having taken three table-spoonfuls of the product in a cup of milk, she noticed a large accession of milk into the breast during the night, and had to wake the child to give it the breast. She continued the regular use of the product, and was able to nurse afterwards without trouble.

Many such cases are on record all tending to show that in cases of difficult lactation the administration of this product, lactagol, increases the lactic secretion where failure is threatened, without injuring either the health of the mother or the alimentation of the child.

It is noticed that the administration of lactagol increases both the fat and the protein properties in the milk. If taken in excess, it causes an abnormal increase in the milk fat.

The results hitherto obtained by those who have had an opportunity of using it and studying its action are so assuring that few practitioners who desire to be *au courant* with the newest agents can afford to fail to give this product an extensive and careful trial.

## The Royal Society of Medicine.

### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Friday, March the 22nd, 1912.*

Dr. G. A. SUTHERLAND, *President, in the Chair.*

**Leucoderma and Premature Canities.**—Dr. J. L. BUNCH.—The girl first attended the Queen's Hospital for Children in January, 1909, when aged 11 years. Some twelve months previously she had developed some round or oval white patches on her chest and shoulders and these had extended and increased in number, spreading also on to her neck and limbs, during the succeeding months. Her mother denied that the appearance of the white patches had been preceded by any hyper-pigmentation, or that any increase of pigment had been followed by atrophy of pigment in the affected areas. The child appeared to be healthy, and only complained of the disfigurement caused by the leucodermic patches. These were very numerous and extensive; many of them were irregular in outline, milky-white in colour, with a convex edge, and surrounded by a concave pigmented border. The patches were not elevated, and to the touch no difference from the surrounding healthy skin could be detected. No subjective symptoms were present; the irides were not affected.

Although there was no apparent change in the pigmentation of the skin of the scalp, there was over the right frontal region a considerable quantity of quite white hair, the depigmentation extending right away down to the roots, and this white hair contrasted sharply, however the hair was dressed, with the rest of the child's yellowish hair. The scalp over this area did not appear to differ either to sight or touch in any way from the other parts of the scalp. There was nothing pointing to a syphilitic history; no history of any injury, burn or nervous affection, and no hereditary predisposition.

Although at this age such cases are nearly always progressive, the leucodermic areas have in this child become much less marked and diminished in size, and the white hair has already acquired a considerable amount of pigment.

**A Case of Purulent Pericarditis.**—Dr. J. PORTER PARKINSON and Mr. DOUGLAS DREW.—Boy, aged  $4\frac{1}{2}$  years, had an attack of pneumonia involving the bases of both lungs at the end of last October. The urine contained blood, pus, albumin, and epithelial and blood-casts, with many pneumococci. The pneumonia ran an ordinary course, the temperature becoming normal by November the 6th, and the signs in the right lung clearing up. The pulse-rate, however, remained the same and the heart-sounds became muffled, but there was no friction or increase of the cardiac dulness. After a few days this sign appeared, till finally there was dulness up to the first rib and increase to the right. On November the 13th there was swelling of the face and some cedema over the præcordium. The next day Mr. Drew excised 2 in. of the fifth costal cartilage, and evacuated 10 oz. of pus which contained pneumococci in pure culture. The recovery was uneventful, the signs of consolidation at the left base disappeared, and the urine became normal by November the 22nd. There are now no signs of enlargement of the heart either clinically or by the X rays.



**Chronic Jaundice and Splenomegaly.**—Dr. LEONARD GUTHRIE.—Girl, aged 6 years. Eighteen months ago she became jaundiced. Icterus has varied in intensity from time to time, but has never disappeared entirely. The urine is sometimes dark in colour, but usually pale; the stools are said to be always dark brown. She often complains of feeling sick, but seems well on the whole.

*Past illnesses.*—Varicella and pertussis at three years, "rheumatic fever" at five years, and morbilli at five and a half years, followed by chorea. Has always been troubled by thread-worms.

*Family history.*—Negative.

*Present condition.*—Fairly well-nourished blonde. On admission to hospital, December the 11th, 1911, the skin, mucous membranes, and conjunctivæ were of bright canary-yellow colour. Bowels constipated, motions dark, containing much mucus, but no oxyurides. Urine pale, no bile-pigment, acid, 1015, no albumin. Heart and lungs normal. Liver not felt, area of dulness normal. Spleen easily palpable, extending 2 in. below costal margin. Notch not felt.

*Blood examination.*—Serum is deep yellow coloured. Reds, 4,190,000; whites, 10,200; hæmoglobin, 80 per cent. Differential count: Polymorphonuclears, 76 per cent.; large lymphocytes, 4.5 per cent.; small lymphocytes, 17 per cent.; eosinophiles, 2.5 per cent.

During three months' observation the icterus has varied greatly in intensity, but has never quite disappeared. The motions are always dark, and the urine has never contained bile-pigment. The spleen is still enlarged. The area of hepatic dulness is normal. The probable diagnosis is: "Toxic hepatic cirrhosis with splenomegaly."

**Bilateral Deltoid Paralysis.**—Dr. G. A. SUTHERLAND.—Female, aged 1 year. Child appeared to be healthy until four months ago, when she had an illness of an indefinite character lasting for a fortnight. Since then there has been little movement about the shoulder-joints, the patient being able to move the forearms and hands freely. Child is fat and flabby generally. The left deltoid muscle appears to be completely paralysed, and the right retains very little power. Definite wasting cannot be determined owing to the amount of superjacent fat. Bones and joints in the neighbourhood appear to be normal. There is no rigidity or tenderness. All the other muscles of the extremities are very flabby, but there is no evidence of paralysis elsewhere.

**Case of "Subacute Arthritis of Shoulder-Joint" (due to an Organism of the Bacillus Enteritidis Type).**—Mr. LIONEL E. C. NORBURY.—Male, aged 11 months, admitted to hospital on August the 11th, 1911, with a history of a fall and (?) injury to left shoulder four weeks previously. Shoulder noticed to be swollen one week later. Patient treated for "pleurisy" three weeks before coming to hospital.

*On examination.*—Signs of resolving pneumonia at left base; no pyrexia, no cough. Slight swelling of left shoulder-joint. Treated as an out-patient for eight days. Swelling of joint gradually increased; painful; limitation of movement.

*On admission.*—Temperature 99.4° F. Considerable effusion into shoulder-joint. Diagnosis of subacute arthritis, probably pneumococcal in origin.

Arthrotomy by anterior incision. Turbid fluid containing deposits of lymph evacuated. Irrigation of joint with normal saline solution. Suture; no

drainage. Temperature fell to 96° F. on following day, rising to 100·8° and 101·4° F. on second day, after which it remained subnormal. Diarrhœa with green stools on second day after operation, and off and on for several days. Sutures removed on seventh day; wound almost healed, very slight discharge. Movements at joint good.

*Patient examined on March the 19th, 1912.*—General condition good; movements at shoulder-joint quite free.

*Report on fluid taken from joint at time of operation.*—"Gram-negative motile bacillus present, which does not liquefy gelatine, and ferments (acid and gas) glucose, galactose, maltose, mannit, dulcitol, and sorbit, and does not ferment lactose, saccharose, raffinose, dextrin, and glycerine; indol is not produced. It therefore belongs to a large group of organisms of *Bacillus enteritidis* type, which includes *Bacillus enteritidis* (Gaertner), *Bacillus paratyphosus*, etc.; it does not include the organism described as Morgan's No. 1, which is frequently found in cases of diarrhœa in children."

**Case of Cerebral Palsy.**—Dr. G. A. SUTHERLAND.—Male, aged 1 year. Born at full term, first child, normal labour without instruments. Child weighed 9 lb. Breast-fed for six weeks, then cow's milk and barley-water; became a fat child. At the age of seven months began to have screaming fits, drawing up of the legs and twitching of the head and eyes. At the age of ten months had a series of general convulsions lasting two days, about nine each day. Since there has been an occasional general convulsion.

Child is very fat and flabby. Face and head look larger when viewed from the front, but there is much flattening in the antero-posterior diameter, producing a brachycephalic condition. Constant jerky movements of the head, trunk and extremities take place, spasmodic and purposeless. He takes no notice of what is going on, seldom cries, and never smiles. He is unable to sit or to support himself sitting up, or to balance the head. The pupils react to light, and there is no ocular paralysis or nystagmus. The fundi are normal. Vision is apparently present, but hearing seems absent.

**Congenital Deformities in the Lower Limb.**—Mr. DUNCAN FITZ-WILLIAMS.—Boy, aged 7 years. The head of the femur was high on the dorsum ilii, nearly as high as the anterior superior iliac spine. The femur was much shorter than its fellow. The head of the tibia was displaced forwards and slightly outwards, and the ligaments of the knee-joint were very lax. The patella was absent. The foot was in a position of extreme equino-varus.

**Congenital Dyschezia.**—Dr. A. F. HERTZ (*vide* p. 145).

## OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

*February the 1st, 1912.*

**The Presence of Blood-pigment in the Fæces of the New-born.**—Dr. H. COLWELL and Mr. BRYDEN GLENDINNING examined the fæces of fifty infants during the first twelve days of life to determine whether blood-pigment was normally present. They found that it was present in the

great majority of cases, being most frequently met with during the first four days of life. They attributed its presence to minute hæmorrhages into the intestinal canal caused by the sudden circulatory disturbance resultant from the change to extra-uterine life. The hæmorrhage ceased as soon as equilibrium of the circulation was established, which occurred normally at the third or fourth day.

## Philadelphia Pediatric Society.

March the 12th, 1912, THEODORE LE BOUTILLIER, M.D., President.

**Carpo-pedal Spasm.**—Dr. ELEANOR C. JONES presented a coloured girl, aged 15 months, showing symptoms of tetany. Carpo-pedal spasm was marked; the hands showed the so-called "obstetric hand." Chvostek's sign was marked, and Erb's sign was also present. The knee-jerks were increased. The child had rachitis, with acute intestinal indigestion; was well nourished, but backward in development. She did not walk or talk. Under treatment with calomel, followed by high colon irrigation, bromides and calcium lactate, the carpo-pedal spasm had become intermittent.

Dr. H. K. HILL said that he had seen a similar case at the Babies' Hospital last summer suffering with severe and prolonged gastro-enteritis, finally ending in death. The present case, giving a history of head-nodding and having had slight nystagmus, was interesting as another case of spasmus nutans with a history of rachitis, of which Dr. Hill had reported four in a paper read before the Society last year. He suggested that the child might have always lived in a dark room.

Dr. J. N. JORSON quoted many authorities to support the theory that infantile tetany was due to hæmorrhage into the parathyroids at birth, the spasm appearing only after fibroid changes had occurred in the parathyroid glands.

Dr. J. F. SINCLAIR spoke of having seen three cases of tetany following gastro-enteritis last summer. In one the tetany did not recur during two attacks of pneumonia, but reappeared somewhat during an attack of whooping-cough which the baby had recently had.

Dr. LE BOUTILLIER said that he had seen a case of marked carpo-pedal spasm recently in a child with congenital syphilis and hydrocephalus. Nystagmus was also noted, but without spasmus nutans.

**Congenital Syphilis.**—Dr. C. W. BURR showed two boys with congenital syphilis. One, aged 17 years, was about the size of an ordinary boy of ten years. Both showed many stigmata of degeneration.

Dr. FREDERICK FRALEY stated that at the Orthopædic Hospital, where such cases were not infrequently seen, spasticity in children was becoming considered very suggestive of syphilitic conditions.

In answer to Dr. O'Mara's query as to the occurrence of high palate in these cases, Dr. BURR said that a high palate alone was of no significance, but should only be considered when many other stigmata were found.

**Vitiligo.**—Dr. HILL showed a girl, aged 11 years, of Armenian parentage, who, while in the Philadelphia Hospital for Contagious Diseases with scarlet



fever, developed typical vitiligo, which gradually spread over her shoulders, neck, back, arms, and legs, appearing two weeks after the scarlet fever. There were also three small clumps of blanched hair—leucotrichia. Many forms of nervous diseases, such as chorea, followed scarlet fever, while some chronic skin affections, such as eczema and psoriasis, partially or entirely disappeared during an attack of scarlet fever, only to return after convalescence. But vitiligo is rare after scarlet fever. The fact that the skin was discoloured in Addison's disease and that vitiligo occurred in Graves's disease led to the thought that the evident relation of abnormal pigmentation to the functions of internal secretion of the suprarenal or thyroid glands and the possible upsetting, by an attack of scarlet fever, of the delicate nervous mechanism having to do with the function and secretion of these glands might have something to do with the ætiology of the case.

**Intussusception.**—Dr. H. S. CARMANY showed a specimen from a child, aged 13 months, weaned three months before the attack. Though vomiting began on Friday, a physician was only called in on Sunday. The parents refused operation, though there were mucous stools and a decided tumour. On Wednesday they permitted operation. Tympany now concealed the tumour. The tumour was easily reduced, but the patient was in such bad condition that only a hurried operation was possible; death followed a few hours later. The specimen shows two areas of gangrene, both in the long axis of the bowel.

Dr. HILL spoke of having reported to the Society a similar case while he was resident physician at the Children's Hospital, which Dr. Le Conte had operated upon successfully eleven hours after admission, the child leaving the hospital on the twelfth day. The prominent symptoms were the passage of blood and mucus.

Dr. JOHN SPEESE said that early diagnosis was essential in order to obtain cure by surgical measures, and that cases of intussusception which existed twenty-four or forty-eight hours were generally fatal. He had seen two cases in which a prompt diagnosis was made and operation performed within four hours from the onset of symptoms. The physicians in both cases based the diagnosis upon the sudden appearance of bloody stools containing mucus and the presence of a palpable tumour. One case recovered, but the other died of pneumonia and a recurrence of the intussusception ten days after the first operation.

Dr. JORSON said that he had operated upon a number of cases of intussusception, all seen late and all fatal. Resection of the bowel had several times been necessary, and this was always fatal. With stools of pure mucus and blood and a palpable abdominal tumour, operation was immediately imperative. The teaching of the use of enemata as a means of reduction was bad, for this delay might kill the baby.

**Urethral Calculi.**—Dr. SPEESE reported two cases of urethral calculi occurring in children. In the first instance the first symptoms of stone were manifested by acute retention of urine and pain. The child, aged 2 years, had been entirely well. Though the retention was relieved twice by catheterisation, the third attempt failed because of an obstruction which was thought to be a stricture. On palpation a small nodule was found in the fossa navicularis; meatotomy was done and a calculus the size of a pea removed. The stone was soft, grey, oval, and composed of phosphates. It was firmly embedded in the urethra, having formed a small depression on

the under surface of the canal. It was believed to be a primary urethral calculus because of its apparently long duration, composition, and the absence of symptoms of calculus formation elsewhere in the urinary tract. In the second case retention was not complete, though the stone was of the same size and in the same location as in the first child. Its composition was uric acid, and it was easily removable with forceps. In this case the stone originated in the bladder or kidney, and in being passed became impacted in the urethra and caused the symptoms noted.

Dr. JOPSON said that he had reported two such cases ten years ago and had not seen any since. In both of his cases external urethrotomy was performed.

**Ophthalmia Neonatorum.**—Dr. ALICE WELD TALLANT, by invitation, read a study based upon a series of thirty-seven cases from the outdoor and indoor services of the Maternity Hospital of the Woman's Medical College of Pennsylvania. Omitting six cases of silver reaction, two of very mild grade, there remained thirty-one cases. Of these, 3 cases, or 9·67 per cent., were ante-partum or intra-uterine, the cases developing before birth; 13, or 41·93 per cent., were primary, the infection being received at birth, with symptoms developing in one to five days; and 15, or 43·38 per cent. were secondary, the cases appearing after the fifth day, and thus not due to birth infection. The ante-partum variety was very rare unless cases be included in which the disease developed within a few hours of birth. It was explained by the entrance of infection when the membranes had been long ruptured or by infection passing into the amniotic sac.

The proportion of cases of ophthalmia due to the gonococcus was estimated at from 41 to 72 per cent. In this series nearly five-sixths were clinically gonorrhœal, but only a little over half in which microscopical examinations were made gave positive results. Male and female children were affected with about equal frequency—sixteen and fifteen cases respectively. The virulence of the infection in the mother bore no relation to the severity of the disease in the child. These babies usually gained so well on breast-feeding that it was not advisable to separate the child from the mother unless there was special danger of reinfection through her.

The prophylactic treatment was the usual 1 per cent. silver nitrate solution, one drop in each eye, neutralised with normal salt solution and followed by boric acid. The outdoor results showed four cases of gonorrhœal ophthalmia (two by bacteriological examination) in 2275 births, or 0·175 per cent. In the hospital there were thirty-seven cases (twenty-three by bacterial examination) in 951 births, or 2·34 per cent. Since in three cases the disease was present at birth, and fourteen were secondary cases, the prophylactic treatment failed in at most ten cases, or 1·05 per cent. Although the secondary cases did not mean inefficient prophylaxis at birth, their number could be diminished by the repetition of some prophylactic treatment at intervals of two or three days, if the child's mother was known or suspected to have gonorrhœa. Argyrol might be better in these cases because less irritating. The secondary cases were probably responsible for a certain percentage of the blindness dating from infancy, and showed the need of careful examination of the eyes during the first days of life, even when a prophylactic had been used. Much would be gained if this disease were notifiable. The treatment consisted for the most part in the use of argyrol, supplemented by silver nitrate at need, hot and cold compresses for the swollen lids, boric acid flushing and atropin. Vaccine was used in one case. The

results were good, except in the case of one child, who died from uncontrollable hæmorrhage from the conjunctiva of both eyes—perhaps a case of hæmorrhagic disease of the new-born.

**The Non-operative Treatment of Concomitant Strabismus in Childhood.**—Dr. H. MAXWELL LANGDON, by invitation, read this paper. He said that deviation of the visual axes from parallelism was due either to a paralysis of one or more ocular muscles, or to a faulty development of some portion of the ocular apparatus. This might be faulty arrangement of an extra-ocular muscle, which was very rare; a disturbance of the relation existing between accommodation and convergence (Donders's theory); or a deficiency in the development of the power of fusing the image of each eye with that of the other, producing binocular single vision (Claud Worth's theory). Faulty arrangement of the extra-ocular muscles was very rare; the average child which developed a concomitant convergent strabismus was hyperopic, and in order to secure clear distance vision was compelled to use some of the power of accommodation which should be reserved for near work, thereby destroying the intimate association between accommodation and convergence, being forced to over-accommodate for near and therefore over-converge. Worth found that by the sixth month of life there were very evident signs of a beginning desire for binocular single vision, as shown by rotation of the eye before which a prism was placed and signs of displeasure at the diplopia produced. This fusion sense was fully developed by the sixth year in the average case, so if it was to be trained the attempt must be made before this time.

Squint was divided into two classes—unilateral where one eye was used for fixation and the other kept continually converged, and alternating where each eye was used indifferently. In the former the vision of the eye which was continually converged was very apt to deteriorate from disuse and the suppression of the image formed in it; this loss of vision was much less likely to occur in the alternating variety, since each eye had an opportunity to perform its function at different times. There were three things to be considered in a case of squint: First, the amount of the error of refraction, which should be corrected by proper glasses not later than two years of age, should the squint appear before this, and at once should the squint appear later. Second, the vision of each eye, since, if the squint was unilateral, there was apt to be visual deficiency in the eye which was continually converged. To overcome this and increase the acuity of vision it was necessary to increase the use of this eye, by either completely stopping the use of the eye with better vision with a bandage, or by instilling a cycloplegic and thereby annulling the accommodation and blurring all near objects. A cycloplegic should not be used over an indefinite period to lessen the accommodation and convergence of each eye, as it was very apt to cause a loss of vision in one eye. Third, a deviation of the visual axes, which was the cause of the most distress to the parents of the child, was the most easily managed part of the difficulty, as it could be corrected at operation at any age, but a physiological cure could only be made before the sixth year. At about three years of age some training of the fusion sense should be started with a Worth amblyoscope, and continued until a satisfactory power of fusion was created.



## Société de Pédiatrie, Paris.

*January the 15th, 1912. (Bulletin No. 1.)*

**Congenital Labial Hemispasm and Little's Disease.**—MM. VARIOT and BONNIOT showed a girl, aged 5 years, born at  $7\frac{1}{2}$  months, puny, weighing  $3\frac{1}{4}$  lb. at birth. Weight at present 1 st.; height  $2\frac{1}{2}$  ft. Skull microcephalic; intelligence that of a child of six to seven months. There was marked rigidity of the limbs with exaggerated reflexes, Babinski's sign, and well-marked spontaneous "fan sign." When she cried there was labial hemispasm on the left side. This was not merely an extension of Little's rigidity to the muscle of the lip, for the electrical reaction showed a hypo-excitability with tendency to reaction of degeneration.

**Congenital Syphilis of the Nervous System.**—MM. BARBIER and GASSIER described cases to illustrate the following groups: (1) Epileptic. (2) Acute meningeal. (3) Chronic meningomyelitic with or without osteoarthropathy of the vertebral column. (4) A form resembling cerebral tumour with ocular lesions. (5) Disseminated sclerosis.

**Two Cases of Foreign Bodies in the Œsophagus.**—M. ABRAND.—In the first case there was a pigeon bone measuring  $2\frac{1}{2}$  cm. by 2 to 3 mm. In the second a triangular bone  $2\frac{1}{2}$  cm. by 3 cm. In both cases the symptoms at the onset were very slight, merely a little pain, showing the extreme tolerance of the Œsophagus for foreign bodies. A third point was that in spite of the mildness of the symptoms at first, later a very severe and alarming condition supervened.

**Experimental Rickets.**—MM. MARFAN and FENILLIÉ showed three dogs, aged 3 months, who had been given injections of tuberculin and ovalbumin and presented swelling of the epiphyses and of the ribs.

**Intestinal Pseudo-occlusion and Septicæmia due to the Pneumococcus.**—M. TRIBOULET and Mlle. DE JONG reported two cases, one a child, aged  $4\frac{1}{2}$  months, admitted for wasting. There was nothing to call attention to anything abnormal in the thorax. The abdomen was distended, and there was obstinate constipation unrelieved by enemata. The autopsy showed a latent empyema due to pneumococcus, congestion of the liver and spleen, and no peritonitis. The second case was a healthy boy, aged 11 months, breast-fed, attacked with fever and vomiting. Abdominal distension supervened, with collapse and death. There was a condition of diffuse pneumococcic septicæmia.

**Intoxication by Liquid Milk, Tolerance of Dry Milk.**—Mme. NAGEOTTE stated that she had seen a certain number of cases in which colic, diarrhœa and vomiting caused by milk had disappeared on using tablets of dried milk.

**Mongolian Blue Spots.**—M. PORAK had examined the skin microscopically and found the condition due to an accumulation in the derma, to the exclusion of the epidermis, of fusiform cells loaded with granules of black pigment.

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**Do diseases of dentition exist?** (*Sem. méd.*, 1911, xxxi, p. 469).—**E. Feer**, professor of children's diseases in Zurich, thinks not. During a whole year he closely examined 600 children aged from six months to three years, noting the time of eruption of each tooth on the temperature chart. He never found a fever of dentition, loss of weight, or convulsions. In some cases anorexia, restlessness at night, or peevishness might be noted, but such symptoms are liable to be found in the absence of any teething (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, vi, p. 426).

J. D. ROLLESTON.

**The scrotal tongue in children** (*Arch. de méd. des enf.*, 1912, xv, p. 161).—**J. Comby** records fifteen cases of this condition, which bears a vague resemblance to, though it is quite distinct from, leucoplasia. In none of his cases was there any evidence of heredo-syphilis. The lesions are limited to the dorsum, which is segmented by a number of more or less deep grooves running in various directions; the papillæ are hypertrophied; the tongue as a whole is larger than normal, but there is no interference with its functions. The general condition is not affected. The affection is congenital and familial except in Mongolian imbeciles, whose tongue is smooth at birth but acquires a scrotal appearance later. The scrotal tongue is sometimes associated with marginal glossitis or geographical tongue, but the two conditions are quite distinct.

J. D. ROLLESTON.

**Riga's disease** (*Thèses de Paris*, 1910-11, No. 132).—**N. Piatnitzky**.—This condition, sometimes known as the sublingual product of Fede, is an affection of early life, and is most frequent between the seventh and fifteenth months, especially at the tenth. It has no predilection for either sex. It is commonest in South Italy. It is usually due to slight but repeated injury inflicted on the tongue by the lower incisors either in coughing or sucking, but trauma is not sufficient to account for all cases, and there is no other satisfactory explanation of the condition. Clinically, it is a small superficially ulcerated tumour, situated on the frænum linguæ, rounded in shape, hard in consistence, and covered by a whitish membrane. Anatomically it is a papilloma. It must be distinguished from the sublingual ulceration occurring in whooping-cough, in which there is no tumour, but merely a loss of substance. Riga's disease may, however, occur in whooping-cough and be associated with the characteristic sublingual ulceration. Though it may occur in the course of severe illnesses it is not a grave disease in itself, as Riga and others wrongly maintained. It is a purely local lesion and does not affect the general health. It shows a spontaneous tendency to heal, but the healing process may be hastened by cauterisation or excision, or by removal of the lower central incisors. The thesis contains the histories of twenty-eight cases in children aged from two months to four years, including five original cases (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vii, p. 418).

J. D. ROLLESTON.

**Ulcerative stomatitis in children** (*Siglo med.*, 1911, xviii, p. 567).—**Landetevila** regards inattention to the hygiene of the teeth and mouth as

the primary cause in this affection. It never occurs in breast-fed children. The bacteriology varies in different cases; many are due to Vincent's bacillus, which may be associated with other spirilla in the mouth; other cases are due to the pyogenic microbes, and most are polymicrobial. For treatment he prefers to touch the ulcers daily with a solution of equal parts of silver nitrate and carbolic acid; a mouth-wash of sodium borate 3 per cent. should be used frequently and employed likewise as a dentifrice. Latterly he has tried a 1 per cent. acid solution of salvarsan to touch the ulcers; he was led thereto by the action of this drug on the spirilla.

M. D. EDER.

**Primary suppurative parotitis in early infancy** (*Arch. f. Kinderheilk.*, 1911, LV, p. 199).—A. Bretschneider has collected fifteen cases from literature, including the following two personal cases. (1) Female child, breast fed, suffering from diarrhoea and vomiting. Suppuration of right parotid when nine weeks old, and of left parotid a fortnight later. Death from extension of suppuration to the mediastinum and right pleura. (2) Male child, hand-fed, probably syphilitic. Suppuration of left parotid in fifth week of life. Death from infection of the respiratory passages. In both cases staphylococci were the pyogenic organisms.

J. D. ROLLESTON.

**Cardio-spasm in infants** (*Med. Record*, 1911, II, p. 172).—W. Geiry Morgan has only been able to find records of five cases in which the diagnosis of cardio-spasm with dilatation of the œsophagus has been made in infants under two years old. The first was recorded by Méry in 1906. It occurred in an infant, aged 10 months, and was confirmed by radiography. Adams reported the second case in 1908, which came under his notice when the baby was six months of age. At the autopsy a broken-down tuberculous gland was found between two local dilatations of the œsophagus. In 1909 La Fetra described the third case, which was really one of spasmodic stricture of the œsophagus. It was in a patient, aged 16 months, and was confirmed by radiography. Recently Bech has reported the two remaining cases. Dr. Geiry Morgan adds the records of a sixth case, which is that of an infant who was under his care. It suffered from repeated vomiting and had become emaciated. A hard lump had been felt and peristaltic movements seen in the abdomen, and a diagnosis of pyloro-spasm made at first. Attempts to pass a bougie into the stomach failed, but a soft rubber catheter could be slipped past the obstruction. Through this it was fed, the tube being left in entirely at first, and then left out for lengthening intervals until it was abandoned completely. The baby had progressed favourably.

FREDERICK LANGMEAD.

**Aërophagy in a suckling** (*Arch. de méd. des enf.*, 1911, XIV, p. 527).—J. Comby noticed this condition in a girl, aged 14 months, following on influenza with rhino-pharyngitis and bronchitis. Two doses of antipyrine 0.10 gr. each removed the trouble.

F. R. B. ATKINSON.

**The influence of high external temperature of the air on the secretory activity of the stomach** (*Jahrb. f. Kinderheilk.*, 1911, LXXIV, p. 697).—V. Salle endeavoured by means of experiments on dogs to find out whether the lowered tolerance of sucklings to the usual mixed food is to be referred to a change of the function of the gastro-intestinal tract, and if so,



what were these changes; to answer this question he considered it of importance to discover whether high external temperature affected the secretory activity of the stomach. As a result of his experiments he finds that in young dogs by increasing the external temperature a form of disease is produced which is characterised by great loss of weight, elevation of temperature, diarrhoea and vomiting. There is also a decrease of the stomach contents, lowering of the digestive power, acidity, and the amount of free HCl, which finally disappears, a form of disease comparable to the summer diarrhoea of sucklings, and he hence considers this disease is related to the action of the elevated temperature on the digestive function of the stomach. He also found that the digestive activity depended on the quantity of water in the body—the less the water the greater the inactivity of the stomach—and recommends large quantities of water in this disease.

F. R. B. ATKINSON.

**Two cases of hypertrophic pyloric stenosis** (*Jahrb. f. Kinderheilk.*, 1912, LXXV, p. 18).—**T. Tanaka** describes two cases of this disease in boys of 2 months and 10 weeks of age respectively. He describes the measurement of the pyloric orifice and of its various layers, made on post-mortem examination, and also considers the various theories propounded to explain the spasm and hypertrophy without adding anything new.

F. R. B. ATKINSON.

**Pyloric stenosis in older children** (*Amer. Journ. Dis. Child.*, 1911, II, p. 407).—**E. G. Graham** comes to the following conclusions: (1) Pyloric stenosis is present in children and young adults more commonly than is supposed. (2) The age at which it shows itself depends on the degree of stenosis present. (3) It may be latent for years. (4) The entire disappearance of all the symptoms and subsequent health of the child suggest a probability of an absorption of the hypertrophy. The author describes a case in a boy, aged 6½ years, who died from typical symptoms of pyloric spasm, but no disease of the stomach or intestinal tract was found. Enucleation had had to be performed for an accident and sarcoma ultimately developed. The author considered the case belonged to a group of cases of reflex vomiting associated primarily with disease of the eye, and aggravated by secondary metastasis in the liver.

F. R. B. ATKINSON.

**Visible gastric peristalsis in the suckling** (*Monatsschr. f. Kinderheilk.*, 1912, x, p. 523).—**T. Hoffa** describes five cases of this condition in children not suffering from pyloric stenosis, one in a child, aged 3 months, underfed, two in children suffering from convulsions, and two in children quite healthy, but born of neurotic parents.

F. R. B. ATKINSON.

**Duodenal ulcer** (*New York Med. Journ.*, 1911, II, p. 572).—**J. P. Crozer Griffith** refers to the very slight notice taken of this condition by the writers of text-books on children's diseases. He quotes, however, several references to it in journal and special literature. Collin alone seems to consider duodenal ulcer comparatively common in childhood, finding in 279 reported cases 42 under ten years of age. Of these, however, 17 occurred during the first year of life, and possibly many of them at the time when *melæna neonatorum* might have been present. Moynihan has quoted from medical literature 16 cases of *melæna* in the first week of life in which duodenal ulcer was found at the autopsy. Dr. Griffith records two additional cases, the first that of a boy aged 10, and the second that of a boy aged

6 months. The latter was proved by post-mortem examination, and the ulcer was accompanied by acute nephritis, cirrhosis of the liver, and fibrosis of the adrenal bodies.

FREDERICK LANGMEAD.

**A duodenal tube for infants** ('*Med. Record*,' 1911, II, p. 805).—**Alfred F. Hess** has constructed a tube with which he has been able to gain access to the duodenum in infants ranging from two to fourteen months of age and weighing as little as 7 lb. It consists of a simple rubber tube to which a perforated leaden ball is attached. It acts by gravity, entering the duodenum within from twenty to thirty minutes. Dr. Hess has exhibited X-ray photographs, showing the tube in the duodenum. Its value, at present, seems to lie, according to Dr. Hess, in the diagnosis of pyloric stenosis, for in such cases it could not be passed. It could also be used in the feeding of infants who suffer from protracted vomiting, when it could be left *in situ* for some days.

FREDERICK LANGMEAD.

**Acute duodenal indigestion in children** ('*Med. Record*,' 1911, II, p. 1200).—At a joint meeting of the Philadelphian Pediatric Society and the New England Pediatric Society **F. B. Talbot** read a paper based on twenty-four cases of this disease. The onset might be sudden, with fever, vomiting, pain in the stomach, jaundice, clay-coloured stools, bile in the urine, etc., or insidious without fever, following some indiscretion in diet. It complicated otitis media, diphtheria, and the exanthemata in 15 per cent. of the cases. The onset was sudden in 75 per cent., the liver enlarged in 74 per cent., and tender in 13 per cent.; the spleen was not felt in any case. The stools were white in 36 per cent., creamy in 14 per cent., and clay-coloured in 50 per cent. of the cases during obstruction to bile. The fat of the food was only partly digested. Constipation was present in some cases, in others diarrhoea. Treatment consisted in avoiding fats and sugars, and giving proteins, fat-free milk, and thoroughly cooked simple starches. Tincture of nux vomica should be given. Large doses of bicarbonate of soda were also of value. In the subsequent discussion **A. F. Hess** considered that a study of the ferments in the duodenum was essential, and that this was best carried out by a Nelaton catheter passed into the duodenum.

F. R. B. ATKINSON.

**A clinical lecture on coeliac disease** ('*London Hosp. Gaz.*,' 1911, XVIII, p. 2).—**Robert Hutchison** takes the view that "coeliac disease" described by Dr. Gee, "acholia" described by Dr. Cheadle, and "intestinal infantilism" by Prof. Herter, are one and the same complaint. The clinical characteristics are wasting, large, pale and offensive stools, distension of the abdomen, a curious mental attitude, and certain complications such as weakness of the legs with loss of knee-jerks, toxic or essential oedema, tetany and sometimes convulsions. The infantilism he regards as merely the effect of protracted malnutrition. He thinks there is insufficient evidence to support the view that the liver is inactive. The fact that the excess of fat in the stools has usually been split into fatty acid soaps is opposed to the belief that the pancreas is at fault. In some cases, however, much unchanged fat is present; other points in support of pancreatic inadequacy are the inability of these patients to digest starch and the benefit derived in some cases by giving pancreatic ferments by the mouth. He inclines to the view that these cases are essentially cases of chronic intestinal catarrh, but considers it an open question whether the Gram-positive micro-organisms of

Herter are specific or secondary to the state of the intestine. Under treatment he recommends a diet of proteins, gelatin and dextrins, the base of the diet being raw meat, to which raw meat-juice may be added. Avoidance of chill he considers important. Medicinally he recommends opium, combined with a carminative mixture or an astringent containing bismuth or nitrate of silver. When there is much unsplit fat or unaltered starch an active preparation of pancreas, such as pankreon or holadin, is advisable.

FREDERICK LANGMEAD.

**Acute hæmorrhagic pancreatitis** (*'Tesis de Buenos Aires,'* 1911).—**P. I. Elizalde.**—A girl, aged 14 years, was suddenly seized with severe pain in the epigastrium and vomiting. On admission to hospital on the fifth day of disease the abdominal pain was generalised, but was still most intense in the epigastrium. There was tympanites and no hepatic dullness. Generalised peritonitis from perforative appendicitis was diagnosed, and laparotomy was performed. On opening the abdomen black fluid blood escaped. The appendix was found to be healthy, and there were no signs of intestinal obstruction. Finally, the presence of yellow nodules in the omentum led to the correct diagnosis of hæmorrhagic pancreatitis with fat necrosis. Death took place next morning. At the necropsy the whole of the pancreas except the head was seen to be infiltrated with blood, no glandular tissue being distinguishable. Seventy-two small calculi were found in the gall-bladder. The other organs were practically normal.

J. D. ROLLESTON.

**Habitual family icterus in the newly-born** (*'Jahrb. f. Kinderheilk.,'* 1912, LXXV, p. 358).—**H. Rehn** was called to see a child a few hours old suffering from jaundice. A brother of the child had died two years since from the same complaint on the third day after birth. The former child died on the second day, and post-mortem examination showed hæmorrhages in the mucous membrane of the stomach, uric acid infarcts in both kidneys, and hæmorrhages in the liver and spleen. No cause could be found for the condition.

F. R. B. ATKINSON.

**Recurrent jaundice, pyrexia, splenomegaly, anæmia, and pigmentation of the skin in a girl, aged 11 years** (*'Practitioner,'* 1911, LXXXVII, p. 791).—**L. Guthrie** describes the above case, which showed in addition progressive simple anæmia followed by recovery, hæmorrhages from mucous surfaces, and positive reactions to Von Pirquet's and Wassermann's tests. There were no signs clinically of syphilis, and treatment by mercury or iodide was not adopted. The author does not mention what treatment was employed.

F. R. B. ATKINSON.

**Case of hepatic cirrhosis in an infant** (*'Riv. di Clin. Pediat.,'* 1911, ix, p. 722).—**E. Gagnoni** describes the case of a girl, aged 2½ years, who died of epistaxis and anæmia. The child was suckled by a mother who had evident signs of pleuro-pulmonary tuberculosis. The passage of tubercular toxins by the milk is now admitted, as is also the cirrhogenic action of such toxins as first shown by Prof. Patella in 1901, who attributed cases of pyloric stenosis to this cause.

VINCENT DICKINSON.

**Malarial hypertrophic cirrhosis with ascites and no jaundice in a child, aged 8 years** (*'Arch. de méd. des. enf.,'* 1911, xiv, p. 440).—**A.**



**Mezboimian** narrates this rare condition. Cirrhosis is very rare in children, and there are few cases recorded which are not due to syphilis. He gives a short *resumé* of the literature. In the author's case death occurred. The spleen reached nearly to the iliac crests. Twelve litres of fluid were removed from the abdomen.

F. R. B. ATKINSON.

**Acute yellow atrophy of the liver in children** (*Amer. Journ. Med. Sci.*, 1912, I, p. 177).—**John Phillips** records a case of the above in a female child, aged 5 years. On admission to hospital she suffered from intense jaundice associated with stupor. The history was rather indefinite. One week before admission she began to lose her appetite, and vomited several times a day, the last time she vomited being two days before coming to the hospital. During this time the child became more deeply jaundiced, the stools were clay-coloured and the urine a deep yellow colour. No blood had been seen in the vomited matter or in the stools. During the last twenty-four hours she had been unconscious. On admission the following were among the chief points noted: deeply jaundiced condition of the skin and mucous membranes, numerous small petechiæ over the lower extremities below the knees, unconsciousness, temperature *per rectum* 96.2° F. The lower edge of the liver was not palpable; the upper border of hepatic dullness began at the fourth rib in the right mammary line, and at the sixth rib in the axillary line. Urine contained much bile, and in sediment there were found epithelial and hyaline casts and leucin crystals. Leucocyte count 22,400. Child died a few hours after admission, and the autopsy showed acute yellow atrophy of the liver, cloudy swelling of the heart, kidney, pancreas and adrenals, stenosis of the cystic duct, thyroid hyperplasia and wide-spread petechial hæmorrhages. The author discusses various points in connection with this disease and gives a list of recorded cases affecting children.

J. ALLAN.

**Congenital stenosis of the ileum apparently of syphilitic origin** (*Arch. of Pediat.*, 1911, xxviii, p. 689).—**F. van der Bogert**.—A baby, aged 2 months, whose mother had had several miscarriages, was admitted to hospital for constipation. The abdomen was markedly distended, the abdominal wall thin, and coils of intestine visible. Fæcal vomiting was present. Evacuation of the bowels was obtained by high enemata, but the distension persisted and death took place. Necropsy: Stenosis of ileum 23 in. above ileo-cæcal valve. Bowel above stricture markedly dilated, with decided increase of muscular tissue for more than 2 in. above the obstruction. Microscopically, the submucosa and muscular layers were found to be greatly thickened and infiltrated with round-cells. The mucosa was ulcerated away, leaving a base covered with fibrin, necrotic cells, and leucocytes.

J. D. ROLLESTON.

**Chronic intussusception mistaken for dysentery** (*Arch. de m'éd. des enf.*, 1912, xv, p. 47).—**J. Comby** describes a case of a girl, aged 4 years, in whom all the symptoms pointed to dysentery and for which disease she was treated. On autopsy intussusception of the colon was found. The temperature chart showed two phases—an initial one lasting three weeks without fever, and a terminal one of eight days, with an elevated temperature caused by peritonitis.

F. R. B. ATKINSON.

**Hirschsprung's disease in a boy, aged 7 years** (*Arch. of Pediat.*, 1912, xxix, p. 60).—**S. Welt-Kakels**.—A few days after birth the abdomen appeared to be large, and the bowels moved only once in two or three days. The condition grew worse, and on one occasion constipation lasted for thirteen days. At the age of four he came under the care of the authoress for six months, but she did not see him after that until he was seven years of age, when the skiagram, taken in the prone position, showed an intestinal sac of enormous dimensions. The after-history of the case is not described.

F. R. B. ATKINSON.

**Chylous ascites and chylocele in sucklings** (*Arch. of Pediat.*, 1911, xxviii, p. 595).—**D. M. Cowie**.—Since 1691 only nine cases, including the present, have been recorded. Cowie's case occurred in a male infant, in whom the abdomen was remarkably large at birth and gradually increased in size. When seven weeks old the measurement round the navel was 22 in. The scrotum was tense, and was  $9\frac{1}{2}$  in. in circumference. The X rays showed a normal colon, and the absence of tumours in the thorax or abdomen. The face, neck, and ears, and occasionally the lower extremities, were cyanotic. The right heart was enlarged. Between May 27 and September 17, 1909, 2340 c.c. of milky fluid were withdrawn from the abdomen and scrotum, the same fat content—7.2 per cent.—being found in the fluid from both sources. In April, 1911, nineteen months since the last tapping, the child was over two years old and perfectly well. Cowie attributes the ascites in his case to pressure of the right heart retarding the flow of chyle into the subclavian vein, and the consequent rupture of a chyle vessel below the diaphragm.

J. D. ROLLESTON.

**Acute poliomyelitis in Iowa** (*Interstate Med. Journ.*, 1912, xix, p. 35).—**W. L. Bierring**.—The first instance of an epidemic here occurred in 1908 and again in 1910. A map shows a widespread and general distribution with a tendency to focal occurrence, and radiation from these foci along lines of railway. The regions most affected in 1910 were hardly affected in 1911. The disease appeared to be infectious and transmissible, but it is usually difficult to trace the connection with other cases. Out of 654 cases, 95 were aged fifteen years and over, and 24 of these were over twenty-five years old. The sexes were equally divided. In 1910 there were 157 deaths in 654 cases—an unusually large mortality. Food and dust seem not to be causal factors. In one case in the country many chickens had developed paralysis, and a hog which ate the heads of some of these chickens developed atypical paralysis of both hind legs. In another set of five cases, in two cases chickens belonging to the family had been affected, in one kittens, and pigs in another. In an examination of one paralysed chicken a softened area, one inch long, was found in the spinal cord, and histologically numerous small hemorrhages in the anterior cornua with collections of cells in the perivascular lymph-spaces, etc., in the anterior horns—in fact a typical picture of poliomyelitis as seen in the human being. Examinations and cultures for micro-organisms were negative. Many different types occurred, viz.: (1) The ordinary spinal form; (2) progressive form, usually ascending; (3) bulbar variety; (4) a rare acute encephalitic type; (5) cerebellar form; (6) a polyneuritic form with marked pain and tenderness in the extremities, no loss of sensation, and post mortem no signs of peripheral neuritis; (7) meningitis type very like cerebro-spinal fever; (8) abortive types with only slight motor symptoms, nausea and vomiting, pains in back or limbs, hyper-

aesthesia, etc. The period of incubation seems to vary from three to fifteen days.

J. PORTER PARKINSON.

**Epidemic poliomyelitis** (*Journ. Amer. Med. Assoc.*, 1911, LVII, p. 1275).—The report of the committee on the methods for the control of epidemic poliomyelitis is here published. They state that the transmission of the disease from man to monkey and from monkey to monkey has been now demonstrated, but the virus, although capable of being cultivated on artificial media, has not been identified. In man the virus has been found in the spinal cord and bulb (and possibly in the spleen, blood and cerebro-spinal fluid), while in monkeys it has been present in the brain, spinal cord, mesenteric, axillary and salivary glands and in the nasal and pharyngeal mucous membrane, where it has been found to persist for as long as five months after the acute stage of the infection. The virus is easily destroyed by heat ( $45^{\circ}$ – $50^{\circ}$  C.) and by comparatively weak disinfectants; it is resistant to low temperatures, desiccation and the action of glycerine. For the present it may be concluded that few clinically recognised cases can be traced to contact with previous clinically recognised cases. If the disease is transmitted by direct contact, paralytic cases must be a small factor in its dissemination; on the other hand abortive cases and carriers may play an important part. The digestive tract as the avenue of infection is suggested by the seasonal prevalence, the greater incidence in childhood, and the almost constant occurrence of gastro-intestinal symptoms in the acute stage. Is it possible that the disease may be communicated to man from the lower animals or by means of some insect, possibly the flea. Pending the results of further investigations the committee recommend that all patients known to have, or suspected of having, the disease should be isolated for a period of three weeks; that all discharges from patients and all articles used by them and their attendants should be disinfected; that fumigation of the premises with formaldehyde should afterwards be carried out, that other members of the family should be excluded from schools during the period of the patient's isolation and during the possible incubation period of a new case, *i.e.* for three weeks following the last exposure to a (presumptively) contagious person; and that as a prophylactic measure hexamethylenamin should be administered daily to persons exposed to infection.

T. R. WHIPHAM.

**The butyro-reaction of Noguchi-Moore in acute anterior poliomyelitis** (*Arch. de méd. des enf.*, 1911, xiv, p. 842).—M. Leitão finds that the reaction of globulin to butyric acid is strongly positive in the pre-paralytic stage of this disease, and remains so for the first two months of the paralysis; up to six months it is feebly positive and inconstant, and becomes negative at the seventh month. Only tubercular meningitis give a similar result, and this is differentiated from Heine-Medin's disease by the presence of lymphocytosis in the former complaint.

F. R. B. ATKINSON.

**How is acute epidemic poliomyelitis transmitted, and how can the contagion be arrested?** (*Paris Méd.*, 1910–11, II, p. 221).—C. Levaditi finds the pathogenic agent in the nasal mucous membrane, but not in the secretion. The virus penetrates into the organism by means of the respiratory and digestive tract. To avoid contagion the patients should be isolated and a local application of permanganate of potash or oxygenated water made.

F. R. B. ATKINSON.



**Experimental poliomyelitis ; preliminary communication** (*New York Med. Journ.*, 1911, 11, p. 613).—**M. Neustaedter** and **W. C. Thro** report that they have succeeded in producing poliomyelitis in monkeys by a new method. By a consideration of clinical points in the epidemic form of the disease they were led to suspect that the virus lay active in the dust of infected rooms, and gained entry into the system through the naso-pharynx. They obtained the sweepings of a room which a child, paralysed for two weeks, inhabited. These they made into a solution, filtered through a Berkefeld filter No. 2, and afterwards proved to be sterile on blood-agar. This extract was injected into the lateral ventricle of a monkey which seven days later developed general constitutional symptoms which were transient and a persistent wrist-drop. From the sweepings of another case they produced paralysis in a second monkey by intra-spinal injection. This animal was killed, and the microscopical examination of the cord showed changes similar to those seen in acute poliomyelitis. Further, an emulsion of this cord produced paralysis in a monkey.

REGINALD MILLER.

**Experimental poliomyelitis produced in monkeys from the dust of the sick-room; further report** (*New York Med. Journ.*, 1911, 11, p. 813).—**M. Neustaedter** and **W. C. Shea** collected dust from a room in which cases of this disease occurred and produced the same disease in monkeys, and as a result of their experiments came to the conclusion that the disease was propagated by dust, the naso-pharynx was probably the point of entry, and that the disease was both infectious and contagious.

F. R. B. ATKINSON.

**Lumbar puncture in acute poliomyelo-encephalitis** (*Arch. of Pediat.*, 1911, xxviii, p. 164).—**J. L. Morse**.—During the acute stage, before the appearance of paralysis, the cerebro-spinal fluid is clear, and not infrequently under somewhat increased pressure; it often shows a fibrin clot, which may persist for two or three weeks or perhaps longer; it always contains an excess of cells, chiefly of the mononuclear type, many of them being lymphocytes. These changes are identical with those in tuberculous meningitis, the disease with which acute poliomyelo-encephalitis is most likely to be confounded, but help to distinguish it from epidemic cerebro-spinal meningitis and other forms of meningitis.

J. D. ROLLESTON.

### Surgery.

**A case of macroglossia** (*Cleveland Med. Journ.*, 1911, x, p. 743).—**J. H. Comroe** records a case in a girl, aged 3 years, the ninth child of healthy parents. Immediately after birth the tongue was found to be very large but normal otherwise. During dentition it became very much thicker, and small papillæ appeared on its anterior part. At the end of the first year the tongue and papillæ became rapidly and progressively larger and assumed a bluish colour. A year later the tongue became sore and hæmorrhages frequently occurred. At the time of operation the swollen and cyanotic lips were pushed forward by a much thickened and excoriated mass representing the anterior part of the tongue, profusely studded with papillæ, some of which were pustular. The posterior part was normal. A V-shaped portion was removed, and four months after the operation the tongue was found to be normal in every respect. Microscopically the growth was a lymphangioma.

J. D. ROLLESTON.

**Prolapse of the parotid** (*Zentrabl. f. Kinderheilk.*, 1910, xv, p. 498).—**R. Matrossowitsch** records a case unique in literature. A boy, aged 4 years, cut his cheek with a sharp knife. The wound extended from the left corner of the mouth to the last molar tooth, involved the muscles of mastication, and caused a prolapse of the parotid. As the gland could not be replaced it was extirpated. The wound was sewn up and healed *per primam*.  
J. D. ROLLESTON.

**Congenital stenosis of the pylorus** (*Western Med. Rev.*, 1911, xvi, p. 410).—**S. Haslam** operated successfully on a child, aged 1 month, for stenosis of the pylorus by means of divulsion. He considered this method would cause less shock than a gastro-enterostomy. The œsophagus was markedly dilated. This is the first successful case in Nebraska.

F. R. B. ATKINSON.

**Treatment of pyloric stenosis in early infancy** (*Semana Medica*, 1910, xvii, p. 1321).—**M. H. Vegas** relates a case in a breast-fed male child, aged 2 months. Vomiting had occurred every hour for eight days. Treatment by diet proved unavailing, and operation was resorted to nine days after the appearance of the symptoms. The result was quite successful, and breast-feeding was resumed five days after the operation. This is the ninth recorded case in the Argentine Republic, and the only case successfully treated by operation. The eight former cases were treated medically, but the results are not given.

M. D. EDER.

**Rupture of the common bile-duct** (*Austr. Med. Gaz.*, 1912, xxxi, p. 54).—**O. F. Paget** describes the case of a child, aged 7 years, run over by a sulky. Operation revealed rupture of the common duct, which allowed no bile to enter the intestine, but let it accumulate in the peritoneal cavity, producing intense emaciation and jaundice. All other symptoms were secondary to pressure. The temperature was normal, but reached 103° F. after paracentesis and then returned to normal. After the first operation, consisting of draining away the bile from the abdominal cavity, the temperature ranged between 102° and normal. There was no hæmorrhage and no ligature of vessels at the first or at the second operation, when the gall-bladder was found adherent to the posterior surface of the liver and was sutured to the colon and a drainage-tube inserted. The patient was pulseless and barely alive. Hypodermic injections of pituitary gland were given for weeks. Five days after the second operation there was no bile in the motions, and the bile discharging through the operation wound was septic, and the temperature 101°. The tube was removed, and thus resistance at the skin opening and at the region of the tear in the duct was increased. The course was a hazardous one, but the result justified the means, bile appearing on the twelfth day, and the patient recovered.

F. R. B. ATKINSON.

**Appendicitis in childhood** (*Gazz. med. ital.*, 1911, lxii, p. 355).—**H. Salzer** says that the peculiarities of appendicitis in children are based on special anatomical conditions; in children the appendix is relatively larger than in the adult—one tenth of the length of the large intestine instead of one twentieth in the latter. The opening from the cæcum into the appendix is funnel-shaped, the aperture relatively large, while in the adult the appendix is sharply distinct from the cæcum and its lumen separated from the rest of

the intestine by a kind of valve. Another important fact is the abundance of lymphatic follicles. The appendix of the newborn is entirely without any adenoid tissue; in the first year of life follicles appear in the walls of the appendix, and become in a short time so numerous that it might be compared to the tonsil; towards the thirtieth year they begin to atrophy. Appendicitis is very rare in the newborn; inflammatory conditions are more numerous in the period when the follicles are most developed. The author thinks, however, that none of these anatomical facts explain the gravity of appendicitis in childhood, nor does the asserted greater difficulty of diagnosis. In the child the condition of the abdominal walls and the facility of rectal examination allow a more complete objective examination, while in the adult the differential diagnosis between biliary or renal calculus, pyelitis and ovaritis has to be considered. A very important symptom in children up to the age of five years is that the right leg is kept flexed on the pelvis. The appendix in children being very low in the pelvis, irritation of the posterior peritoneal folds and sheath of the psoas are relatively easily produced. The greatest difficulties are those of differential diagnosis of central pneumonia and other gastro-intestinal conditions. The examination of appendices removed from children shows, as in the adult, all stages of the disease from simple inflammation to complete gangrene, purulent and pseudo-membranous forms. The author draws attention to another important fact. Out of 163 cases operated on by him, in 103 he was able to show that they were not operated on during or after the first attack, but after a series of attacks. In 106 he found cicatrices in the appendix or other remains of former morbid processes. The gravity of the disease is not to be attributed, as many authors state, to the rapidity of its course in children, but to the fact that they have already had other attacks. The author, however, asserts that children are, as a rule, in a less favourable condition than adults for treatment, and to this the greater seriousness of the disease and smaller percentage of recoveries must be attributed. The surgeon sees the case when there are already grave symptoms of peritoneal infection. Slight attacks of appendicitis pass unobserved or are mistaken for common disorders of digestion, and it is these chronic or slight forms which should be cured in order to avoid serious attacks involving the peritoneum. Chronic appendicitis is variable in its aspects; for the most part the children are pale, with poor appetite, diarrhœa, and later on, vomiting. Periodic vomiting should always call attention to the appendix. There may be colic, especially after food, appearing suddenly and disappearing as rapidly; pain radiating to the right leg; morbid temper, and frequent headache. Operation effectually removes all this. The diagnosis is sometimes very difficult, and the author draws attention to an interesting point. A fine crepitation is felt under the palpating fingers, very similar to that felt in cutaneous emphysema. When elicited several times in succession it disappears, to reappear after a short time. In no case in which the author found this symptom did he fail to see some lesion of the appendix at the operation. The conclusion arrived at is that the greater mortality of children from appendicitis is not due to special anatomical conditions or greater diagnostic difficulties, nor to the fact that in childhood the disease assumes a generally progressive character, but rather because surgical treatment is undertaken too late.

VINCENT DICKINSON.

**Appendicitis and twisted ovarian cyst with hæmorrhage** ('*Austral. Med. Gaz.*, 1911, xxx, p. 389).—Burfitt narrates the case of a



child, aged 10 years, in whom on operation the above conditions were found. Extensive hæmorrhage had occurred into the cyst and burst into the pelvic cavity. The result of the operation is not mentioned.

F. R. B. ATKINSON.

**Acute diffuse gonorrhœal peritonitis** (*'Amer. Journ. Derm.,'* 1911, xv, p. 511).—**C. Goodman** records three cases, one of which occurred in a girl, aged  $7\frac{1}{2}$  years. On admission to hospital she showed signs of general peritonitis and a purulent vaginal discharge, which had first been noted a week previously, containing gonococci. At the laparotomy several collections of purulent fluid, from which pure cultures of gonococci were obtained, were found between the intestines, as well as a large abscess in the pelvis. Recovery took place. Acute diffuse gonorrhœal peritonitis is commoner in children than in adults, and is particularly fatal in childhood, probably because the lymphatics yield more readily to infection. There is less tendency in children to the formation of adhesions, and the tissues are more succulent and show less resistance to bacterial invasion.

J. D. ROLLESTON.

**Enterectomy in an infant twenty-four hours old** (*'Lancet,'* 1912, i, p. 427).—**G. E. Waugh** records this interesting case. The infant had persistent vomiting since birth and no flatus or fæces had passed *per rectum*. At the umbilicus there was a tumour about as large as the infant's head, and within the sac coils of small intestine could easily be seen. It was found necessary to resect a portion of the gut and then do lateral anastomosis. There was a good recovery, but unfortunately the infant died a month later from marasmus. No post-mortem examination was allowed. The chief points of interest were: (1) the rarity of the condition—congenital hernia of the cord—which was responsible for the acute intestinal obstruction. (2) No case of successful resection of intestine with lateral anastomosis for acute obstruction has yet been recorded in a child of this age. (3) The use of spinal anæsthesia.

J. ALLAN.

**Spastic ileus in a child, aged 2 years** (*'Zentralbl. für Kinderheilk.,'* 1911, xvi, p. 127).—**O. Nordmann** finds that spastic contraction of the bowel can be caused by (1) a nervous affection (neurasthenia or hysteria); (2) foreign bodies in the bowel (gall-stones, oxyuris); (3) ulcers in the mucous membrane of the bowel; (4) disturbances in the nervous mechanism of the bowel. He described three cases of spastic ileus in 1910, and now narrates another in a girl, aged 2 years. The child recovered after an operation, which consisted in opening the abdomen and pressing the gas in the distended loop into the contracted part of the bowel.

F. R. B. ATKINSON.

**Paralytic intestinal obstruction in a newborn child** (*'Progrès Méd.,'* 1911, 3 sér., xxvii, p. 483).—**H. Reynès** describes the case of a boy, apparently normal, weighing  $3\frac{1}{2}$  kilos., born of a biparous, non-syphilitic mother, aged 28 years. Vomiting, which began the day after birth, became more copious and green in colour and the evacuation of meconium ceased. There was no malformation of anus or rectum; the latter allowed the passage of a catheter. The third day after birth there was complete intestinal obstruction and abdominal distension. Micturition was normal, and the general condition was becoming rapidly worse. Laparotomy showed the small intestines enor-

mously distended, filled with meconium and secretion. The large intestine presented a remarkable condition. The cæcum, ascending colon and first half of the transverse colon were distended and ecchymosed. The second half of the transverse descending colon, the sigmoid flexure and rectum were small, contracted and empty. The walls of the transverse colon presented a marked difference of appearance and colour, the distended part being purple and the undistended part pinky-yellow. The cause of the obstruction could not be found. An artificial anus was made, but the child died four hours later. The autopsy disclosed nothing further with regard to the cause of the obstruction, there was no malformation, nor any morbid condition either around or in the intestine. The upper parts of the digestive canal were normal. The case could not be explained on the supposition of a simple megacolon. The author's opinion was that there existed an initial neurotrophic malformation: the nervous plexuses of the intestine being malformed or absent, a paralytic condition was produced, stopping all intestinal movement and favouring dilatation. Some unexplained cause localised the condition to the small intestine and half the colon, producing an enormous paralytic ileus. Blochmann described a case of functional intestinal obstruction in the '*Berlin. klin. Wochens.*,' 1911, XLVIII, p. 564.

VINCENT DICKINSON.

**Retrograde enteric intussusception** ('*Clin. Journ.*,' 1912, XXXIX, p. 350).—**L. A. Dunn** operated on a boy, aged 2 years, who lived forty-eight hours after the operation. The intussusception was about six inches long and gangrenous. Post-mortem examination showed that the intussusception removed at the operation was travelling upwards along the small intestine away from the cæcum, *i. e.* in a retrograde manner.

F. R. B. ATKINSON.

**A rare form of intussusception** ('*Austral. Med. Gaz.*,' 1911, I, p. 203).—**C. Joyce** describes the above case, which occurred in a boy, aged 2 years and 8 months. On operation the entering bowel was found to consist of both large and small intestine. The intussusception had been formed "not so much by the lower section 'swallowing' the upper portion of the bowel as by the lower segment constantly turning in at the neck of the intussusception." The splenic flexure of the colon was congested, and there were two creases on the inner angle of the flexure where the bowel had been turned inwards, forming a pouch into which a coil of the small intestine had pushed, and the whole had been grasped by a ring of the bowel just below and drawn in. The operation was successful.

F. R. B. ATKINSON.

**Fourteen consecutive successful laparotomies for acute intussusception in infants** ('*Clin. Journ.*,' 1911, XXXVIII, p. 232).—**E. W. Roughton** briefly describes these cases in children ranging from four months to one year; ten of the children were males. In thirteen of the cases the invagination involved the region of the ileo-cæcal valve. He considers laparotomy is the only treatment—a view concurred in by most of the speakers in the discussion which ensued.

F. R. B. ATKINSON.

**Hæmorrhoids in a child aged 2½ years** ('*Bull. Soc. Sci. Méd. de Bucarest*,' 1909-10, p. 169).—**C. Poënar-Caplesco**.—Nothing was seen on external examination of the anus, but after defæcation a tumour

appeared, of the size of an olive, and presented the typical appearance of hæmorrhoids. Whitehead's operation was performed. The child remained constipated for six days. On the seventh a purgative was given. Rapid recovery resulted.

J. D. ROLLESTON.

**Prolapse of the rectum in children** (*Med. Rev. of Rev.*, 1911, xvii, p. 396).—M. L. Bodkin thinks that consideration of the general health is of prime importance in the treatment. Rectal prolapse is an index of low vital condition, except when there is a definite indication of traumatism. Operation then is only of temporary benefit. Chronic diarrhoea, phimosis, constipation, and irritation from within are common causes. Reduction should be made by digital pressure, the buttocks being afterwards strapped together. Defæcation should be only permitted when lying on the side. In incomplete prolapse linear scarification with nitric acid or the actual cautery is recommended.

J. PORTER PARKINSON.

**Hernia in children** (*Practitioner*, 1911, lxxxvii, p. 299).—Douglas Drew considers the variations in form and structure of the sac, and the variations in its contents. The former is divided into the funicular and the congenital; occasionally the obliteration between the funicular process and the tunica vaginalis is incomplete and marked by a fibrous ring, which in rare cases has left a small opening into the abdomen. Irregularly sacculated and hour-glass sacs have also been met with. The author has seen tuberculous peritonitis of a hernial sac on several occasions. The structures most often found in the sac are the lower part of the ileum and the omentum. The cæcum and sigmoid may be present. The Fallopian tube and ovary and undescended testicle are not uncommon. Spontaneous suppuration in a hydrocele of the cord was met with once.

F. R. B. ATKINSON.

**The disinfective power of iodine** (*Sei-I-Kwai Med. Journ.*, 1911, xxx, p. 55).—Y. Takaki, Professor of Surgery at the Tokyo Charity Hospital Medical College, as the result of experiments with various micro-organisms (*Staphylococcus aureus*, *Streptococcus pyogenes*, *pneumococcus* and *B. coli*) found that the skin could be disinfected with a 2 per cent. alcoholic solution of iodine in one hour, and with a 5 per cent. solution in fifteen minutes. In ordinary cases he now adopts the following method: (1) The skin is cleaned with soap and water the night before the operation. (2) The next day, two to three hours before the operation, the skin is painted with a 2 per cent. solution. (3) Again, just before the operation in the theatre. In emergency cases he wipes the skin clean with dry gauze, applies 5 per cent. solution at once, and in fifteen minutes proceeds with the operation. He mentions a successful case where he used his method in a boy, aged 10 months, admitted for strangulated inguinal hernia. Attention is drawn to the following points: (1) The iodine must be dissolved in rectified hot methylated spirit. (2) The skin must be dry, as moisture weakens the strength of the iodine. (3) The superficial hæmorrhage is greater than normal, as iodine increases the vascularity of the skin and subcutaneous tissue. (4) The skin is hardened, and in consequence the knife often becomes quickly blunt. The stain caused by the iodine can be quickly removed by soaking in 2 to 4 per cent. carbolic acid.

J. D. ROLLESTON.



## Reviews.

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A MANUAL OF THE DISEASES OF INFANTS AND CHILDREN. By JOHN RUHRÄH, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third edition, 1911. Illustrated, pp. 534. Philadelphia and London: W. B. Saunders Co. Price \$2.00 net.

THE scope of this volume places it in a rather different category from most books on the same subject. In the preface to the first edition the author states the aim of his work: "This little book has been prepared for the medical student, not to supplant the larger and necessary text-book, but to enable the student to grasp quickly the more important parts of the subject of pædiatrics, and to furnish him with a rapid reference-book for clinical use. It is hoped that the volume is not too condensed to be of service to the busy practitioner."

The issue of a third edition and a perusal of the book show that Dr. Ruhräh has been very successful in carrying out the task he has set himself. The arrangement throughout the volume is very clear and calculated to facilitate rapid reference. The descriptions of the various subjects dealt with are short, but very much to the point, while the range of subjects is large. The illustrations, which are very plentiful, are for the most part excellent.

The limitations of the book are the limitations of the type of volume the author has elected to supply, and on the whole he has risen above them successfully. In some instances, however, the matter has been so abridged as to have been robbed of much practical value. R. M.

MEDICAL GYMNASTICS AND MASSAGE FOR THE TREATMENT OF DISEASE, DEFORMITY AND INJURY. By F. F. MIDDLEWEEK, L.R.C.P., L.R.C.S. Edin. Pp. 33. London: John Bale, Sons & Danielsson, Ltd., 1912.

THIS is a short work, with an introduction by Dr. Arvedson, of Stockholm, describing various gymnastic methods practised after the Swedish system. The book, being nothing but a description of these methods, does not make very interesting reading, and here and there a few explanations seem necessary: *e. g.* the "surgeon makes a firm trembling pressure down the sides of the chest"; "double-sided movements give the best results in tabes." We cannot think that massage through the rectum for paresis, enuresis, and enlarged prostate will ever have much vogue, at any rate in England. The book is unpretentious, and is good as far as it goes.

F. R. B. A.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

JUNE, 1912.

No. 102.

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**Original Articles.**

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MUCOUS GASTRITIS IN INFANCY.\*

By EDMUND CAUTLEY, M.D.Cantab., F.R.C.P.Lond.,  
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Belgrave Hospital for Children.*

IN justification of the name "*mucous gastritis*" I may plead its analogy with "*mucous colitis*." In both affections there is a profuse secretion of mucus. It is sometimes urged that mucous colitis is a nervous affection, not an inflammatory one. I do not suggest such an ætiological factor in the mucous gastritis of infancy. Sometimes the two disorders are coincident in the same infant, and in occasional patients the affection of the colon is more severe than that of the stomach, and the stools contain blood. Possibly a better name would be "subacute gastric catarrh," or "catarrhal gastritis." Pathologically there is a catarrh of the mucosa, characterised by excessive secretion of mucus. The mucosa is pale and flabby and more or less covered with mucus in the cadaver. I have brought the condition before this Section for criticism as to its nomenclature, ætiology, diagnosis and treatment. I propose to limit my paper to the consideration of the disorder in infancy, especially in the first three months of life, for it is at this age it is most characteristic and there is serious

\* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on April the 26th, 1912.

liability to error in diagnosis. In older children it is common in mild forms, leading to various dyspeptic troubles. In infants after the first three months of life it is rarely serious, unless the child is premature or marasmic—that is, in a stage of development similar to that of a younger babe. It is not necessary for me to burden your patience with details of numerous cases. The description of a typical and severe attack will be sufficient for my purpose, but I must remind you that in a mild form the affection is of frequent occurrence.

Two years ago a female infant was sent to me from one of the suburbs as possibly a case of congenital hypertrophy of the pylorus. She was a second child and weighed 6 lb. at birth, but was said to have been a month premature. The child's weights at the end of the succeeding five weeks were 6,  $6\frac{1}{4}$ ,  $6\frac{1}{2}$ , 7 and  $6\frac{1}{4}$  lb. respectively. For the first ten days of life she was nursed by the mother. After this the diet had consisted of peptogenic milk, until the last few days before I saw her. Progress was satisfactory for four weeks. Vomiting then began, preceded by pallor, and recurred after almost every feed. The bowels acted with the assistance of magnesia, and there had been no special history of constipation. The attack was said to have been started by vaccination. At the age of thirty-nine days, when I saw the child, she seemed quite bright, with a clean tongue and inoffensive breath. She vomited immediately after a feed of albulactin, the vomit containing a little mucus and having a slightly sour smell. On examination of the abdomen there was no visible peristalsis, no evidence of dilatation of the stomach, and no palpable pylorus. A diet of whey 2 dr. every quarter of an hour while awake was prescribed, the quantities to be increased to  $\frac{1}{2}$  oz. every half hour, 1 oz. every hour, and 2 oz. every two hours. On reaching the full feed of 2 oz. cream was to be added gradually. Cocaine,  $\frac{1}{100}$  gr. hourly, was ordered.

Shortly afterwards the child's doctor informed me that progress was not satisfactory, so I advised that the diet should be changed to Allenbury No. 1 food and that the stomach should be washed out twice a day.

Three weeks after the first consultation she was brought to see me again. She had improved for a time on the Allenbury food. It then seemed to disagree, so the diet had been changed to milk diluted with four parts of water, and a small quantity of albulactin, 1 oz. being given every two hours. The vomiting still continued, unless the stomach was washed out twice daily. The stools contained a moderate amount of faecal matter.



The child seemed more wasted, the skin of the abdomen being lax and shrivelled. She still weighed 6 lb., but had lost 5 oz., previously gained, in the last six days. Marked peristalsis of the stomach was visible. During the contraction of the stomach I thought I could feel the pylorus as a thickened cord. In view of the possibility of operative treatment being required, the patient was admitted into a nursing home and put on a diet of whey.

When seen next day the report was that there had been little vomiting, no visible gastric peristalsis, and a fairly normal stool. It was now ascertained that the vomiting was characterised by the presence of large masses of tenacious mucus, which were evacuated with great difficulty. It became more frequent, and sometimes gave rise to severe choking attacks. Frequently the vomit consisted entirely of mucus. This vomiting persisted for a considerable time. Moreover the stools occasionally contained mucus, and for some days large quantities were present in each evacuation.

After a few days' treatment by lavage the washing was discontinued as it appeared to me to be doing absolutely no good. The child then began to improve slowly, the secretion of mucus becoming progressively less. Ten days after admission to the home she weighed 5 lb. 13 oz. In the next ten days she gained 6 oz., and 2½ oz. in another four days. During this period her food had been gradually increased, and she was discharged on a diet of cream, whey and lactose. Ten weeks later she weighed 9½ lb., and was digesting feeds of milk 3 oz., barley-water 2 oz. She occasionally vomited and brought up a little mucus.

The two striking features of this case were the enormous amount of mucus secreted and the resemblance of the condition in some respects to congenital hypertrophic stenosis of the pylorus. Thus the vomiting began in the fourth week of life, and had become progressively worse. In the sixth week peristalsis was visible, though it may have been present earlier. At this time the pylorus was palpable on one occasion, but there was obviously no complete obstruction. I thought there might be a mild degree of hypertrophy and that the obstruction was due to secondary spasm, congested mucous membrane or a plug of mucus. It was not until the child was in the nursing home that the excessive secretion of mucus was recognised. The vomiting was not projectile to the extent seen in typical pyloric hypertrophy, nor were several feeds retained before it occurred.

The *ætiology* of this disorder is to my mind fairly simple. These cases are comparatively rare in the breast-fed. For some reason,

such as a chill or unsuitable diet, a catarrh of the gastric mucosa is set up and may become very severe. Occasionally it is due to too high a percentage of fat in the diet, and possibly it may be started by preservatives present in some creams. I feel assured that in certain instances it is due to an infective agent, notably those cases in which there is a coincident ileo-colitis or colitis. It is reasonable to suppose that malnutrition from any cause is a predisposing factor and that the disease may be a sequel of an acute gastritis. I have never seen a really severe case in a breast-fed infant. As I have already stated, the affection is most marked in the first three months of life, and is rarely severe in older infants unless they are small, premature or marasmic. Probably the older and stronger infants, though secreting much mucus, do not vomit so readily and pass it onward through the pylorus.

Any cause which leads to stasis of gastric contents is apt to induce the condition. Hence, it may develop in the course of congenital hypertrophic stenosis of the pylorus.

The *diagnosis* is easy when the vomitus is seen. We must differentiate it from other affections in which there is wasting, vomiting and constipation. I must recall to your notice valuable observations by Drs. R. Miller and W. H. Willcox ('Lancet,' 1907, ii, p. 1670) on "Some Gastric Conditions in Wasted Infants." These observers divided the cases clinically into three groups: (1) Atrophic dyspepsia, or pure marasmus; (2) hypertrophic pyloric stenosis; (3) pyloric spasm, without hypertrophy, or acid dyspepsia. This classification, to my mind, is too narrow and is incomplete. The following one is perhaps better.

#### *Wasting in Infancy.*

- (1) Atrophic dyspepsia: ending in marasmus.
- (2) Acid dyspepsia: (a) with pyloric spasm; (b) uncomplicated.
- (3) Pyloric spasm.
- (4) Mucous gastritis.
- (5) Hypertrophy of the pylorus: (a) uncomplicated: (b) associated with gastric catarrh; (c) associated with pyloric spasm.

In simple marasmus Miller and Willcox found that there is no retention of food in the stomach and no mucin. The secretion of acid is diminished, and ferment activity is low. The tongue is furred, and there is a tendency to diarrhoea and vomiting. I must add that there is sometimes associated gastric catarrh and secretion of mucus.

In acid dyspepsia, or pyloric spasm, there is retention of stomach contents, no mucin, an increased acidity, and normal or decreased ferment activity (Miller and Willcox). Pyloric spasm, in my opinion, can occur independently of acid dyspepsia. It is certainly true that acid dyspepsia can occur without pyloric spasm, and the addition of spasm gives rise to confusing symptoms. Thus, the vomiting may be as explosive as in pyloric hypertrophy. It is apt to occur after each feed, and it is unusual for several feeds to be retained. Hence, dilatation of the stomach is slight or absent, and peristalsis is ill-marked and infrequent. Constipation is neither extreme nor persistent, and the child does not waste rapidly. The tongue tends to be clean. A pyloric tumour, if palpable, varies in size under examination.

I have mentioned these details rather fully as I think the affection is sometimes confused with mucous gastritis. J. Lovett Morse ('*Amer. Journ. Dis. Child.*,' 1911, i, pp. 366-375) describes as pyloric spasm the case of a child, aged 6 weeks, which from the description is what I regard as mucous gastritis. There was much mucus in the gastric contents on lavage and much mucus in the stools. In the discussion on congenital pyloric stenosis, opened by me at Toronto in 1906, I mentioned the possibility that the pylorus "might become blocked by a plug of inspissated mucus, or by swollen mucous membrane, in gastric catarrh." And in the same year Hall recorded such a case, death resulting from gastro-enterostomy at seven months of age. The child had persistent vomiting since birth and only weighed as much as when born. A plug of mucus, due to chronic gastritis, blocked the pylorus, and the intestines were empty. In the case I have detailed there is little doubt that the pyloric obstruction, giving rise to the temporary gastric peristalsis, was due to a similar plug of mucus or to congested gastric mucosa.

It is, however, in the group of cases described as hypertrophy of the pylorus that the greatest danger of error in diagnosis arises. This is obvious on consideration of the results obtained by Miller and Willcox on the examination of the gastric contents of these cases. I do not criticise their results, but I cannot agree with the conclusions they draw. They found that there is retention of food in the stomach, an excess of mucin, a marked increase in ferment activity, and that the acidity is variable and tends to be below normal. The tongue is generally very furred. And they further state that the acidity varies with the amount of gastritis present, and that the gastric abnormalities are modified by regular lavage. It seems clear that these writers are including under the symptomato-



logy of hypertrophic stenosis of the pylorus those due to the gastritis which may be, but is not necessarily, present as a complication. This is the condition I describe as mucous gastritis. It is not present in early stages; and may be absent throughout. Only recently, in a child operated on in the sixth week of life, lavage of the stomach showed that the gastric contents were extremely acid, and that there was no excess of mucus. At operation the typical condition of hypertrophic stenosis of the pylorus was present.

In addition the tongue may be clean throughout, or, at any rate, until secondary gastric catarrh ensues. The gastritis is a complication or a sequel, and the results of gastric examination must be ascribed to the gastritis and not regarded as indicative of pyloric hypertrophy. In mucous gastritis all these signs, except marked retention of stomach contents, may be present and without co-existent pyloric hypertrophy. Whether you call this affection mucous gastritis, catarrhal gastritis, or subacute gastric catarrh, it must be recognised as an affection that is not infrequent in babies at the age when pyloric hypertrophy is common.

Mucous gastritis can be cured by purely medical treatment. The *prognosis* is good even in severe cases if the patient is treated carefully and patiently. No definite improvement can be expected in less than a week or two, and any attempt to increase the quantity or quality of the diet at all quickly is likely to lead to relapse. If, however, these cases are diagnosed as hypertrophy of the pylorus, the result will be an unduly favourable view of the prognosis in pyloric hypertrophy under medical treatment.

In the *treatment* of mucous gastritis I have not found lavage of very great value, except as a temporary expedient for a few days at a time. Sometimes it appears injurious. Nevertheless I recommend it as a measure worthy of trial in all cases in which there is much mucus secreted, using an alkaline lotion for the purpose either once or twice a day. In some cases the frequent administration of small doses of lime-water, bicarbonate of soda or citrate of soda is more beneficial.

The diet must be simple and easily digestible. Cow's milk is curdled very readily, increasing the vomiting and distress. I have obtained the best results from sweet whey powder, a drachm in two ounces of water providing a mixture analytically identical with freshly made whey. It is simpler to prepare than whey, and differs from it in some biological or chemical characters, for it does not so constantly produce the green stools passed by infants fed on whey. Horlick's malted milk and Allenbury No. 1 food have

proved also useful. All these foods are lacking in the antiscorbutic properties of fresh milk. In mild cases diluted peptonised milk can be tried. Asses' milk sometimes agrees. As soon as the worst symptoms have subsided and the secretion of mucus has diminished, small quantities of cream are gradually added to the diet. The diet of cream and whey is gradually replaced by peptonised milk, and then by milk and water or barley-water, or by milk and water with a small amount of Benger's food. Milk-sugar is preferable to cane-sugar. The latter is apt to increase the catarrh. Maltine is beneficial if the child likes it and is much constipated. Citrated milk can be tried when recovery is well advanced. Alcohol is contra-indicated, except in emergencies. Bismuth, especially the liquor bismuthi, is occasionally beneficial, but is more often disappointing. I attach far more importance to diet than to drugs, except in so far that alkalies help to dissolve the mucus and enable it to pass more easily through the pylorus.

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## CASE OF DERMATO-MYOSITIS IN A CHILD, WITH PATHOLOGICAL REPORT.\*

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### INTRODUCTION.

DERMATO-MYOSITIS is a rare condition, and especially so during child-life. I have been unable to find the record of any case of this disease in a child with full pathological examination.

Schüller has described a case of polymyositis in a boy, aged 7 years, which followed on an attack of whooping-cough. The disease reached its acme in three weeks, and in eight weeks the boy was well. Schüller has collected five other reported cases of myositis occurring in children :

- (1) Janicke's case, a girl, aged 3 years, a typical case of myositis fibrosa.
- (2) Schültze's case, a boy, aged 3 years, with eczema of the arms and atrophy of the muscles, designated dermatomyositis.

\* A paper read before the Neurological Section of the Royal Society of Medicine on January the 18th, 1912.

(3) Kösters's case, a boy, aged 8 years, said to be an abortive case of dermatomyositis.

(4) Cassirer's case, a girl, aged 6 years, with muscular atrophy. This case can hardly be accepted as a polymyositis as it was first seen two years after the acute onset.

(5) Oppenheim's case, a boy, aged 8 years, in whom he diagnosed dermatomyositis, since there was an inflammatory condition of the mouth, gums and tongue, in addition to the skin and muscle affection. Four years later Oppenheim was inclined to regard the condition as a scleroderma.

None of these cases were fatal. Oppenheim records six other cases in adults, in two of which a fatal result occurred, but no autopsy was obtainable. The other cases recovered, some in part, others completely.

Petges and Clejat describe the case of a woman, aged 30 years, who was affected with dermatomyositis for eighteen months before her death. The skin showed atrophic sclerosis and there was general myositis. The connective tissue between the muscle-fibres was most affected, and the authors regard the condition as an interstitial myositis with consecutive atrophy of the muscle-fibres. They consider that the condition is probably of vascular origin. Three illustrations of the skin are given and one of the muscle, but the latter is not of much service for comparison with other sections of muscle.

*Pathological features.*—The pathological features of dermatomyositis are described by Lorenz as a cell infiltration of the interstitial tissue with a degenerative condition of the muscle-fibre. The muscle-fibres are in part destroyed by œdema, in part by a leucocytic infiltration. The infiltration is most marked in the region of the vessels.

*Clinical features.*—The symptoms of a dermatomyositis may shortly be stated as follows: There is swelling of the extremities due to the inflammatory œdema of the subcutaneous tissue and muscles, acute pain, muscular rigidity, great tenderness on pressure, and an erythematous rash resembling erysipelas situated over the affected muscle. The character of the rash may vary to a very great extent; it has been described as resembling urticaria, erythema nodosum, or purpura. The onset of the disease is gradual, there is a moderate rise of temperature, rigors are absent. When the acute stage passes off, the skin is left in an indurated and inelastic condition, and the muscles are hard and contracted.



## CLINICAL HISTORY.

A girl, aged  $9\frac{1}{2}$  years, was admitted into the Hospital for Sick Children, Great Ormond Street, on November the 24th, 1910, being transferred from the Metropolitan Hospital, where she had been for the previous seven and a half months under the care of Dr. Langdon Brown. She had first been seen by Dr. Brown as an out-patient and had been treated as such for six weeks, but as she did not improve she was, about the middle of March, 1910, admitted to the Metropolitan Hospital. When admitted, she had a well-marked erythema, distributed over the face, scalp, and extensor surfaces of the arms, hands, and legs below the knees. This was followed by very extensive scaling of the skin in these situations. In addition the skin, as distinct from the underlying tissue, was swollen, inelastic, hard, and with difficulty separated from the underlying tissue—*i. e.* it could not be picked up. This condition was most marked over the muscles of the thighs, buttocks, calves and lower part of the abdomen and back, but was present also over the triceps, shoulder-muscles and neck. When first admitted to the hospital she could walk a little, but gradually she became so stiff that she could not walk or sit up. Whilst in the Metropolitan Hospital there were periods of exacerbation of her disease, with acute swelling of the muscles and redness of the skin.

I first saw her in June, 1910, while she was still in the Metropolitan Hospital during one of these attacks, and suggested that she was suffering from dermato-myositis.

Patient was the first of five children, the second and third of whom had died of broncho-pneumonia, whilst the fourth and fifth are alive and well. The father and mother are alive and apparently in good health, though the father was said to have Bright's disease. The father was a carman, and lived with his family over a stable where five horses were kept, and to these he attended. The entrance to the rooms was through the stable.

Patient was quite well till the beginning of 1910, when she had her tonsils and adenoids removed. She recovered from this and was well for three weeks. In February, 1910, she first complained of pain in the back, and on the following day the hands and arms were red and swollen. The legs then became swollen and were stiff and painful. During the time she was in the Metropolitan Hospital the temperature ran a slightly elevated course. Patient first came under my care in November, 1910. She was then in a somewhat wasted condition and lay stiffly on her back in bed, unable to move to either

side (Fig. 1). The neck was stiff and could only be turned a little to the right side, and not at all to the left, the back was stiff, the arms could not be raised above a right angle to the trunk, and the elbow could not be straightened beyond a right angle. The wrist moved well, but the fingers remained in a position with permanent flexion of the terminal phalanges. The hip- and knee-joints were stiff and flexed, and could not be fully extended. Within limited range all movements of the joints were free—that is to say, the elbow could be freely flexed and extended within the right angle, but at the right angle it was brought to a stop by the tension



FIG. 1.—Figure of child lying in bed, showing the wasted condition of the muscles and the greatest extent to which the arms and legs could be extended. (For this photograph I am indebted to Dr. B. Wainwright.)

of the biceps muscle. Similarly with the legs, flexion was free, but extension was stopped suddenly by the tension of the hamstrings. There was no evidence of any swelling in or about the joints. The muscles generally were wasted, the biceps were firm and hard, and the other muscles which could be palpated felt very firm. The muscles of the forearm were not flabby, but wasted and hard. The skin all over the body was thickened, and if an endeavour was made to pick up a piece of skin it was found to be greatly thickened and inelastic. The face was puffy, but was not oedematous. Physical examination of the nervous system was quite negative. The knee-jerks and ankle-jerks could not be obtained, but that was probably due to the contracted condition of the muscles. Nothing

abnormal could be found in the heart, lungs or abdominal organs, and the superficial glands were normal. The urine was quite normal except on two occasions—January the 6th and 17th—when the patient, without pain, passed some blood-stained urine. Whilst in the hospital she had acute attacks of swelling of the muscles. In one of these the left adductor muscle became much swollen and hard, and the skin over it red and inflamed. As this did not subside the swelling was explored by a needle, and the fluid which was withdrawn examined both cytologically and bacteriologically. The fluid obtained was sterile and showed no special characters.

A series of examinations were now carried out. The blood was examined and showed no change. There was no eosinophilia. A von Pirquet reaction was done, with a negative result. The cerebro-spinal fluid was examined and was normal. The blood was examined for a Wassermann reaction, with a negative result. X-ray photographs of the chest and muscles were made, with a negative result. No trichina could be found, and there was no evidence of myositis ossificans. Cultures were made from the blood with an entirely negative result. The child had on two occasions passed blood in the urine. The examination of the urine showed the presence of blood-cells, no casts, and a motile bacillus. (The blood was subsequently accounted for by a stone in the ureter found at the post-mortem examination.) Sensation all over the skin was unaffected. The muscles showed a diminished electrical reaction, but no evidence of R.D. The temperature during the six months she was in the hospital never rose above 100° F., except on the two occasions on which blood and pus were found in the urine, and also at the termination, when it rose to 103°–104° F.

Various forms of treatment were tried—salicylates, iodides, mercury, iodopin, fibrolysin, massage, warm baths, etc.—but nothing did any permanent good. Warm baths and massage seemed to improve her most. She preserved her intelligence till the end. She took and digested her food well, and she died from a coli infection arising from the bladder.

During the last six months of life the firmness of the muscles increased and she became much thinner. The abdominal muscles and also those of the back became very firm and tough. She lay with the arms and legs flexed in a half sitting position. She died on May the 21st, fifteen months after the onset of her illness.

The post-mortem examination was performed by Dr. Frew. The body was emaciated, but the subcutaneous fat was present in fair quantity. The brain was not examined; the spinal cord appeared



normal. The skin was firm and hard, and on macroscopical examination did not appear abnormal. The pleura and lungs were normal, except for a slight congestion at the bases. The heart was normal. The liver was firm, and scattered over the surface, under the capsule, were numerous, small, circular, pin-point, yellowish areas, which could be shelled out from the surrounding liver-tissue. On section through the liver similar areas were seen; some were larger and more irregular in shape, the largest being about  $\frac{1}{8}$  in. in diameter. The spleen was not enlarged and appeared normal. Both kidneys appeared somewhat congested; the left ureter was dilated and its walls hypertrophied from the pelvis of the kidney to the point at which it crosses the line of the true pelvis, and here it was found to contain a small soft calculus. Below this the ureter appeared normal. The bladder was not hypertrophied; there were several submucous hæmorrhages. The suprarenal glands, the pancreas, stomach and intestines all appeared normal.

The microscopical examination of the skin and internal organs was carried out by Dr. Forbes, whilst that of the central nervous system and the muscles was carried out by myself. The liver showed universal congestion and scattered local areas of cells completely replaced by fat, more marked in the centre of lobules and under the capsule, but also occurring along the periphery of the lobules; the capsule was thickened. The liver also showed cloudy swelling, and by the osmic acid method the fine fat-globules could be easily discerned; the white areas visible to the naked eye were composed purely of fat. No tubercle bacilli or other organism or evidence of cystic parasites could be found in section or in film preparation from the minute nodules. The kidney showed an extensive area of congestion and cell infiltration of the interstitial tissue, most marked in the cortex under the capsule and becoming young connective tissue towards the medulla, causing considerable destruction to the normal renal tissue; the cells of some of the tubules showed fatty changes. The heart muscle appeared normal. The branches of the coronary artery in section showed thickening of the intima by organised fibrous tissue.

The skin on microscopical examination showed definite atrophic changes; the epidermis was reduced in thickness to layers of only two or three cells deep; the cells were stretched and flattened; there was also, in places, complete absence of papillæ. The amount of fat in the subcutaneous tissues was much reduced and largely replaced by fibrous tissue, which extended immediately up to the atrophied epidermis. The subcutaneous tissue was poorly supplied

with blood-vessels; the majority of those seen were completely occluded, showing in transverse section the appearance of small fibrous nodules; others showed hyaline degeneration of the vessel walls.

The examination of the spinal cord was carried out by the Marchi, Weigert-Pal, Van Gieson and Nissl methods, with a negative result. The median nerve was also examined and appeared normal. Several muscles were examined: the left biceps of the arm showed in its central portion well preserved muscle-fibres of normal appearance

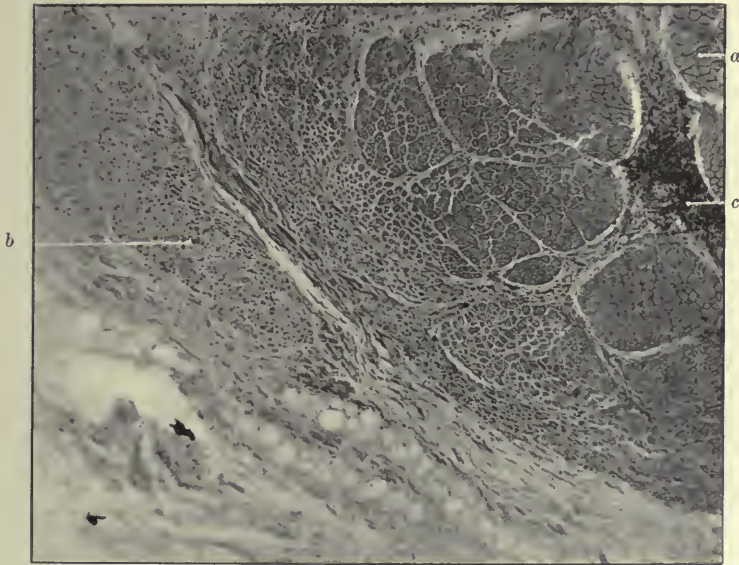


FIG. 2.—Transverse section of muscle showing: (a) normal muscle-fibres towards the centre; (b) atrophied fibres towards the periphery: (c) a vessel the walls of which are infiltrated with lymphocytes.

and size; all round the periphery there was marked atrophy of the muscle-fibres, and the nearer the periphery the more degenerate the fibres, so that in the outermost bundles practically no muscle-fibres remained (Fig. 2). The peripheral portion of the muscle where it is covered by tendon did not show this atrophy, but at the points where the septa of the muscle ran in from the periphery the atrophy of the muscle-fibres extended into the substance of the muscle. In the most peripheral portion of the muscle practically no muscle-fibres were present, and the bundles were replaced by darkly stained nuclei, probably representative of the nuclei of the sheath of the muscle-fibres (Figs. 3 and 4). In some parts these nuclei have to a great

extent disappeared, and all that remained was connective tissue with a few nuclei. At certain spots, generally in close relation to vessels, there were accumulations of small round cells (lymphocytes) (Fig. 5). These cells were more frequent around the veins than around the arteries; sometimes they lay in the muscle apparently quite away from the neighbourhood of the vessel. The abductor muscles of the

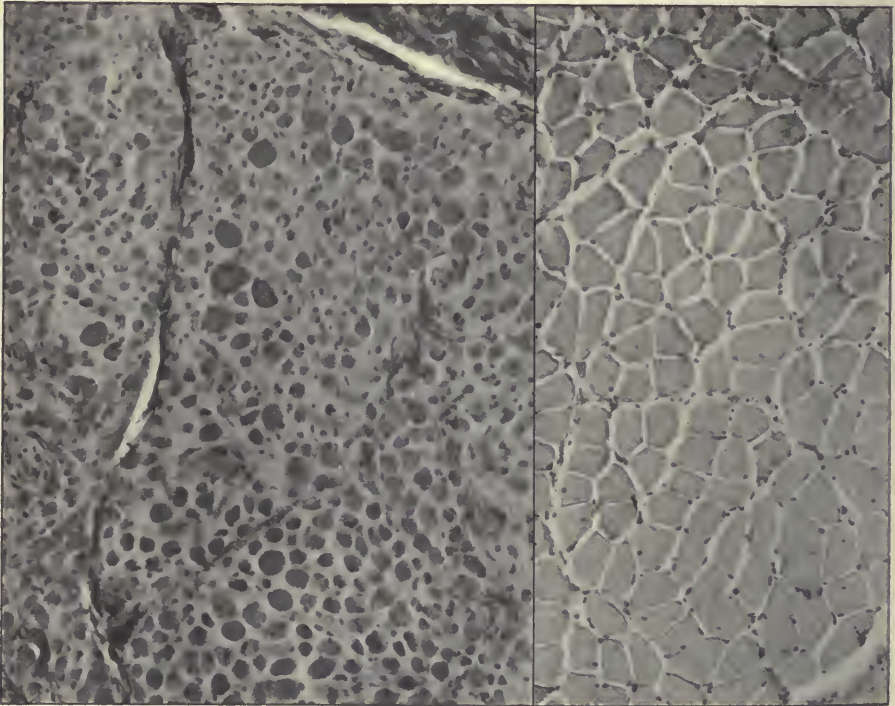


FIG. 3.

FIG. 4.

FIG. 3.—Section of peripheral portion of muscle, showing the marked atrophic condition of the fibres. It will be noted that in some parts the muscle-fibres have almost disappeared, and the amount of interstitial tissue is small.

FIG. 4.—Normal portion of the same muscle photographed under the same magnification.

thigh showed the same change, only in a more marked degree, and the change was not so limited to the peripheral portion of the muscle, the inflammatory process extended inwards, along the septa between the muscle bundles to a greater extent than in the biceps. The rectus abdominis showed similar change, the superficial layers of the muscle-fibres being affected, whilst the deep layers escaped. The left rectus femoris showed less change. The biceps femoris,



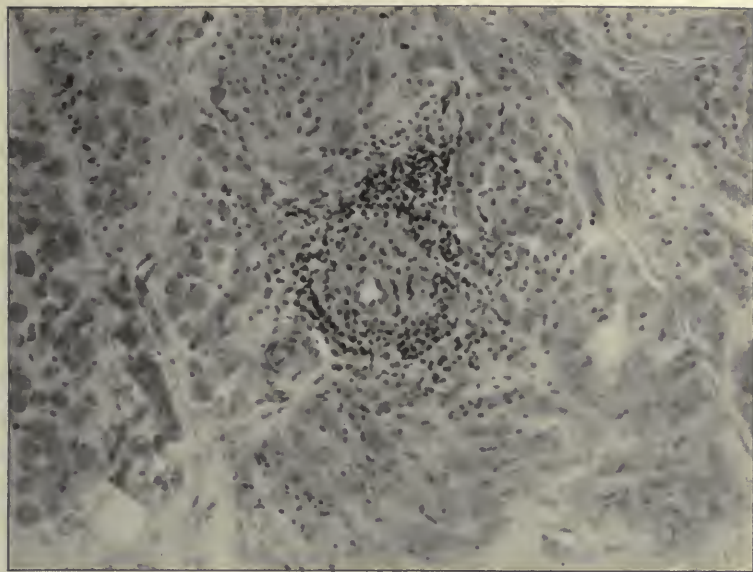


FIG. 5.—Section of vessel showing lymphocytic infiltration of the walls of the vessel and the surrounding tissues. The vessel wall is thickened.

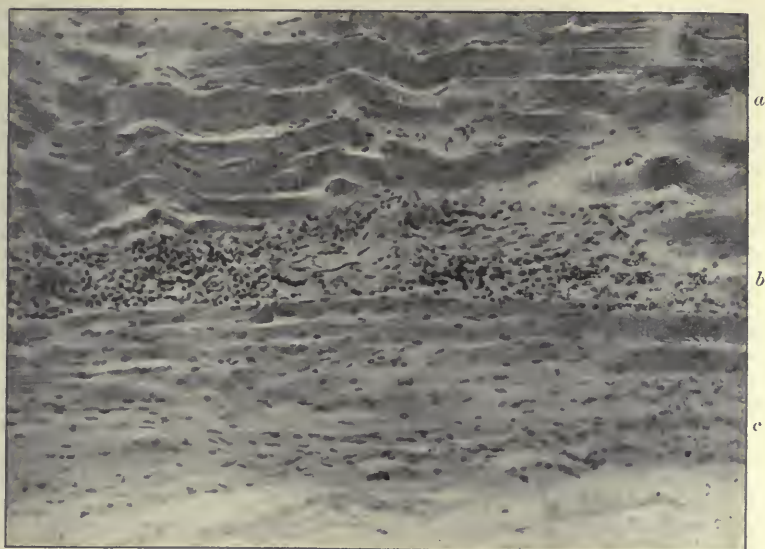


FIG. 6.—Longitudinal section of muscle showing (a) normal muscle-fibres; (b) infiltrated vessel-wall; (c) various degrees of atrophy of muscle-fibres.

again, showed more atrophy of the same kind as has been described in the other muscles; the perivascular exudation was well seen around the vessels. The erector spinæ muscles showed little or no change; the left triceps showed a degree of atrophy similar to that of the biceps; the pectoralis major muscle was relatively well preserved; the diaphragm on the whole was well preserved, but some bundles of muscle near the surface showed a moderate amount of fibrosis (Fig. 6).

*Vessels.*—The walls of the arteries were greatly thickened, some of the vessels were surrounded by small round cells, and in others the lumen of the vessels was entirely obliterated, and the vessels obviously occluded. In all the vessels examined there was an undue thickening of the coats.

#### COMMENTARY.

There are various points in the above case which call for comment. The diagnosis dermatomyositis was based partly on positive signs and partly on the absence of evidence of affection of organs other than the skin and muscles. The positive signs were the character of the affection of the skin, the concomitant affection of the subjacent muscles, the periodic attacks of acute swelling of muscles and redness of the skin, and the subsequent induration of the skin and muscles after the subsidence of the acute attacks.

The negative signs were the absence of any evidence of affection of the joints, of the blood, of the viscera, or of the nervous system, and in addition to these the absence of any sign of syphilis, tubercle, *Trichinella spiralis*, and any form of organism capable of being cultivated on the ordinary media.

The diagnosis was confirmed by both macroscopic and microscopic examination in that no evidence of any disease of the visceral organs (except such slight changes as have already been mentioned in the substance of the paper) or of the nervous system was found, and the changes found were limited to the skin, subcutaneous tissues and muscles.

The most striking point with regard to the changes in the muscles is that it is the superficial portion of the muscles which have suffered, whilst the deeper portion of the muscles has escaped.

Those parts of the muscles which are separated from the subcutaneous tissues by a thick tendinous sheath escape affection, whilst those muscle-fibres which lie in close contact with the subcutaneous tissues and along the intermuscular septa are liable to be affected.

The perivascular infiltration of the vessels with small round cells is a striking feature, as is also the thickening of the walls of the vessels and in some cases the actual obliteration of the vessels.

The infiltration of the muscle-fibres with lymphocytes also occurs, and gives rise to the occurrence of "lymphorrhages." These occur for the most part in close connection with the vessels, but a few such lymphorrhages can be found which do not appear to have any direct connection with the vessels.

The change in the muscle would seem to be due partly to œdema and partly to the cutting off of the blood supply to the fibres—the amount of interstitial tissue between the fibres is small when compared to that found in such a condition as myopathy.

#### CONCLUSION.

There is no doubt that the case belongs to the condition described under the name "dermato-myositis." What the cause of this condition may be has yet to be proved. It seems certain that the present case was not due to syphilis, tubercle, *Trichinella spiralis*, or any known microbial infection, but probably was due to some toxin of exogenous origin. This toxin may be of such a character that it can only be discovered by animal inoculation. Cases of dermato-myositis are rare; but should further opportunity arise an endeavour will be made to investigate the nature of such cases by the inoculation of animals. The fact that this child lived in close proximity to horses rather suggests that the infection may be conveyed from these animals.

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## PNEUMOCOCCAL PERITONITIS IN CHILDREN.

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IN children, and especially in little girls, one of the most common of the aberrant forms of pneumococcal infection is that in which the peritoneum is involved. The exact route by which the micro-organism reaches the peritoneum has been disputed. Cases to which I shall refer later seem to show that in some instances at least the organism reaches the peritoneum by passing through the bowel-wall, which is already the seat of a pneumococcal enteritis. It has further been suggested that in some cases the infection is by direct spread through the diaphragm, from an area of pneumonic consolidation in the lung. It does not, however, seem necessary to adopt a separate explanation for the infection of the peritoneum. Infection of the meninges, of the joints, of the endocardium, and of the middle ear is probably always directly from the blood-stream, and it would seem reasonable to conclude that the source is the same in most cases of peritonitis.

Pneumococcal peritonitis is by no means a rare disease. Between 1903 and 1911 at least twenty-four cases have been admitted to Guy's Hospital in which the diagnosis has been confirmed by bacteriological examination. In many cases which might otherwise have been included no bacteriological examination was made, and I have no doubt that the disease is much commoner than is suggested by these figures. Rischbieth, in 1911, in an interesting paper\* was able to report a series of fifty-seven cases in children from the Great Ormond Street Hospital for Sick Children and from the London Hospital, in about half of which a bacteriological examination was made. Many very large series of cases have been published on the continent.

That the number of cases appearing in the records of hospitals is smaller than the commonness of the disease warrants is no doubt due to the considerable difficulties which the diagnosis has presented. The disease may come under observation at various stages and with very different symptoms, so that it may simulate closely such diverse conditions as typhoid fever, acute gastro-enteritis, appendicitis, and tuberculous peritonitis.

If, as I believe, there are many cases of pneumococcal peritonitis

\* 'Quart. Journ. Med.,' Oxford, 1911, iv, pp. 205-231.

in which it is unwise to perform immediate laparotomy, it becomes necessary that we should be able promptly to distinguish pneumococcal peritonitis from peritonitis due to other causes, and especially from peritonitis due to appendicitis.

Very little attention is paid to this differential diagnosis in text-books of medicine and of the diseases of children, and there is, I believe, a tendency to regard the mistaken diagnosis as inevitable, and to look upon pneumococcal peritonitis as a condition which is only disclosed when at a laparotomy the appendix, which was about to be removed, is found to be normal. I believe that a somewhat closer study of the symptomatology will render the similarity between pneumococcal peritonitis—a condition of general septicæmia culminating in diffuse infection of the whole peritoneal cavity—and appendicitis—a local inflammation without septicæmia—much less apparent.

Pneumococcal peritonitis occurs almost entirely in youth. Of twenty-six cases collected from the 'Guy's Hospital Medical Reports,' the following table shows the age and sex.

Nineteen females.			Seven males.		
Age.	No.		Age.	No.	
27 years	1 case	.	22 years	1 case	.
20 "	1 "	.	18 "	1 "	.
15 "	2 cases	.	16 "	1 "	.
14 "	1 case	.	10 "	1 "	.
11 "	1 "	.	4 "	1 "	.
9 "	1 "	.	3 "	1 "	.
8 "	5 cases	.	2 weeks	1 "	.
6 "	3 "	.			
5 "	2 "	.			
3 "	1 case	.			
2 "	1 "	.			

These figures, compiled from cases seen at a general hospital, do not, however, show, as Rischbieth's do, how common the disease is in the first few years of life. In the present series fifteen out of nineteen cases in females occurred between the ages of five and fifteen.

#### DIFFERENTIAL DIAGNOSIS BETWEEN PNEUMOCOCCAL PERITONITIS AND PERITONITIS DUE TO OTHER CAUSES.

In childhood the only common forms of peritonitis besides pneumococcal peritonitis may be said to be those due to appendicitis, to gonorrhœal infection, and to streptococcal infection.

Gonorrhœal infection may be readily detected by an examination of the vagina and vulva and by a bacteriological examination of the discharges.

So-called "primary" streptococcal peritonitis is rare, but can hardly be distinguished from that due to the pneumococcus. In both it is commonly a complication of septicæmia. It results sometimes from infection of the umbilical cord in the newly born; occasionally it follows scarlet fever or terminates chronic nephritis. Rarely it complicates erysipelas in young infants, when it may be associated with œdema of the lower extremities. Such infections of the peritoneum are probably always fatal.

In early life, peritonitis due to infection of the urinary or biliary passages, to suppuration in a mesenteric or retroperitoneal gland, to perforation in typhoid fever, or to perforation of a gastric or duodenal ulcer, is so rare that it may almost be excluded from consideration.

The diagnosis between peritonitis due to appendicitis and peritonitis due to pneumococcal infection depends upon the evidence in the latter condition of the presence of a septicæmia. This shows itself in the feeling which we often have when we stand by the side of a case of pneumococcal peritonitis, that the patient is, in general, more ill than can be accounted for by the degree of peritonitis present.

Often there is evidence of infection in other parts, either antecedent or simultaneous, so that it may be possible to say with certainty that in addition to peritonitis there are other infections present such as pericarditis, pleurisy, or pneumonia. In such cases of multiple localisation the prognosis is undoubtedly more serious. Of the Guy's Hospital cases only one recovered.

Even when there is no evidence of the involvement of lung and pleura, the aspect of the patient is often that familiar in pneumonia, with grunting respiration and *alæ nasi* working vigorously. In five of the Guy's cases herpes labialis was present; in others the onset was with rigors, shivering or convulsions. Where a leucocyte count was made high leucocytosis was present. An early and copious exudation of lymph is characteristic, and in several of the Guy's cases it is noted that soon after the onset of symptoms of peritonitis the signs of free fluid in the peritoneal cavity were apparent. In two cases seen recently the temperature, within a few hours of the onset of severe abdominal pain and vomiting, was above 104°F. In not a few cases symptoms of some days' duration—in one case of three weeks' duration—had preceded the violent abdominal pain which marked the onset of the peritonitis. Among



such symptoms were pyrexia, shivering, vomiting, sore throat, and attacks of colic, and they serve to indicate that the general pneumococcal infection had preceded by some time the involvement of the peritoneum. In three cases which I have seen lately, to two of which I was called on successive nights, there was evidence that the peritonitis had spread from an ulcerative enteritis which had been in existence for some days before the onset of peritonitis. In others diarrhœa has been a prominent symptom. The following case I have selected, although it occurred in a young adult, because it illustrates well some of these points—the preceding colic, diarrhœa, and colitis, the shivering, the high temperature at the onset of peritonitis, and the rapid exudation of fluid. It serves to illustrate also a point to which I shall refer later, the apparent futility of immediate laparotomy.

E. S—, a female, aged 20 years, was admitted to Guy's Hospital on November the 11th, 1911. On the 8th she had felt ill, and had had abdominal pain, diarrhœa and shivering. On the 9th she stayed in bed, but on the 10th and 11th she felt better and went back to work. On the afternoon of the 11th she was suddenly seized with much more severe abdominal pain and vomited. On admission at 10 p.m. her temperature was 104° F. The abdomen moved badly and the muscle over the appendicular region was rigid. I saw her at 11 p.m. and got Mr. Hughes to operate. The wall of the cæcum was stiff, infiltrated and rigid, and there were a few flakes of lymph beginning to form on the peritoneal coat. The appendix was healthy. I recognised the condition as one of pneumococcal ulcerative colitis and gave a bad prognosis. She died thirty hours later, and that time had been sufficient for the whole peritoneal cavity to have become filled with thick purulent-looking lymph. There was acute and extensive ulceration of the cæcal mucous membrane. A pure growth of pneumococcus was obtained from the pus.

In this case there was rigidity of the musculature over the cæcum, which was in reality the only point in which the simulation of appendicitis was at all close. In one other case I have seen a similar local rigidity.

The more remote history of the patient may be suggestive. In a case seen in consultation the child had recently had pneumonia and the mother was convinced that the illness was the same. The predisposition of the individual to pneumococcal infections may be very great. A history of previous attacks of appendicitis may also be of weight in the diagnosis.

From a consideration of these points the age and sex, the onset with rigors, convulsions or herpes labialis, the early appearance of

delirium or of pronounced diarrhoea, the simultaneous presence of pleurisy, pericarditis or pneumonia, the history of repeated attacks of lobar pneumonia, the evidence of antecedent colitis, the great and rapid exudation of fluid into the peritoneal cavity, the high temperature at the onset, the marked leucocytosis, the want of localisation of pain and rigidity to the right iliac fossa, it is often possible to make a diagnosis with certainty between appendicitis and pneumococcal peritonitis.

#### STAGES OF PNEUMOCOCCAL PERITONITIS.

In pneumococcal peritonitis it is possible to recognise three stages :

(1) A stage of onset, in which all the symptoms set in with great violence, and in which, in many cases, death occurs. In cases seen at this stage the diagnosis is to be made from perforative peritonitis or from acute gastro-enteritis. In many cases there is truly an enteritis present as well as the septicæmia, but the leucocytosis and the height of the temperature should serve to distinguish the double condition from one of uncomplicated gastro-enteritis.

(2) If the patient survives the onset, after some hours or days there is usually considerable improvement in the general condition, and a retrogression of all symptoms. The pyrexia usually continues for some two or three weeks, during which time a diagnosis of typhoid fever may be suggested. The greater intensity of the abdominal pain, the persistent vomiting, the high leucocytosis, and the presence, in some cases, of evidence of free fluid in the abdominal cavity, should prevent this mistake.

(3) Lastly, after recovery from the pneumococcal septicæmia, a residual collection of pus—often subdiaphragmatic, sometimes, however, filling the whole peritoneal cavity—is usually left behind, just as an empyema may complicate convalescence from lobar pneumonia. Such a condition seen for the first time is likely to be mistaken for a case of tuberculous peritonitis with local or general effusion. Moreover, the pneumococcal abscess tends, like that due to tuberculous peritonitis, to point near the umbilicus. It would seem, however, that when such an umbilical fistula appears after pneumococcal peritonitis, it may be formed with much greater rapidity than is common in tuberculous peritonitis.

I find notes of four patients who were admitted with such residual collections of pus in the abdominal cavity after recovery from the pneumococcal septicæmia in their own homes. One of these was an adult, the remaining three children.

A boy, aged 10 years, was admitted for abdominal pain and swelling

with diarrhœa which had begun suddenly three weeks before. He improved rapidly, a diagnosis of tuberculous peritonitis was made, and he went home. Seven months after discharge from hospital he was readmitted under Dr. Hale White in an emaciated condition and with pus escaping from a fistulous opening at the umbilicus. During the interval he had suffered severely from intermittent abdominal pain. The opsonic index to tubercle was 0·83, and tuberculin treatment produced no improvement. Dr. Hale White, noticing that the pus was free from fæcal odour, had a cultivation made, and a pure growth of pneumococcus was obtained. A vaccine was prepared and administered and he went out eight months later in good health.

A girl, aged 5 years, six weeks before admission had had an illness in which at first appendicitis and later pneumonia were diagnosed. On admission the abdomen was swollen and contained fluid. The opsonic index to tubercle was 1·2. A diagnosis of tuberculous peritonitis was made and the child was treated in the open air. Three weeks later a swelling rapidly appeared at the umbilicus and laparotomy was performed. As soon as the peritoneum was opened pus, from which a pure growth of pneumococcus was obtained, poured out; three pints were collected. Recovery thereafter was rapid.

A girl, aged 8 years, had an acute illness of many weeks' duration, in which a diagnosis of typhoid fever was made. After eleven weeks free fluid was discovered in the abdomen and a fistula formed at the umbilicus. She was then admitted under Dr. Taylor. A laparotomy was performed and a pint and a half of greenish-yellow pus escaped. The child was well two years later.

Such cases must suggest the possibility that occasionally pneumococcal peritonitis may occur and recovery take place without laparotomy and without the formation of any residual abscess. In such cases the diagnosis must, of course, always remain doubtful, but I offer the following as an instance of such recovery. A girl, aged 15 years, was admitted under Dr. French's care with vomiting and abdominal pain of two days' duration. The abdomen was swollen, rigid and tender. In both flanks there was dulness, which shifted on rolling the child over. There was herpes labialis. The temperature was high, between 102° and 104° F., and the pulse rapid. There was a leucocytosis of 15,600. Cultivation from the herpetic vesicles gave a growth of *Staphylococcus albus*. The abdominal pain and vomiting diminished after four days and the child ultimately made a good recovery.



## TREATMENT OF PNEUMOCOCCAL PERITONITIS.

The treatment of pneumococcal peritonitis commonly advised is by immediate laparotomy and the establishment of drainage. Against this procedure as an invariable practice I would urge the following objections:

(1) In pneumococcal peritonitis there exists no focus of infection which can be extirpated as in appendicitis. In those cases in which there is an acute local enteritis—and they appear to be relatively uncommon—the condition of the gut is not such as to encourage attempts at excision.

(2) The peritonitis is always in the first instance a diffuse general peritonitis involving the whole peritoneal cavity to its furthest recesses. Such a general infection renders efficient drainage almost an impossibility.

(3) It is by no means certain, even if it were possible to drain off the exuded lymph, that it is wise immediately to attempt to do so. The lymph not improbably has a protective function and diminishes the absorption of toxins. In what I have called the second stage of the illness, which coincides with the copious exudation of lymph, there is often in favourable cases an amelioration of all toxæmic symptoms.

(4) The disease in the early stages is essentially a septicæmia and the danger is in proportion to the virulence of the general infection. Death may occur within a few hours of the time at which the local infection of the peritoneum takes place and while the peritoneum itself is involved to but a small extent. The following case in a young man illustrates this point.

J. S—, aged 22 years, while on holiday in Ireland, developed a chill, with shivering, abdominal pain and diarrhœa. He felt so ill that he came home to London on August the 8th. He stayed in bed for three days. On the 12th he walked to Guy's Hospital and was seen in the out-patient department. His temperature on admission was 104° F., his pulse 120. A diagnosis of appendicitis was made and Mr. Turner operated. On opening the peritoneum some blood-stained serum escaped; the appendix, which was red and inflamed, but not perforated, was removed. Within twelve hours the patient died. I performed the autopsy, and found that the cæcum and the first six inches of the ascending colon showed an acute follicular colitis. The wall of the gut was so œdematous as to pit on pressure. The glands by the cæcum were congested and in one there was a hæmorrhage. There was a little recent peritonitis

around the cæcum and the stump of the appendix. Over the upper left lobe of the lung there was a thick layer of yellow lymph. I think this was undoubtedly a case of pneumococcal septicæmia and colitis, in which death occurred at the onset of peritonitis. Cultivation from the peritoneum unfortunately gave only a growth of *Bacillus coli communis*, by which the pneumococcus is not infrequently overgrown.

If immediate laparotomy is practised the operation may be done before the sudden exudation of lymph has taken place, as in the case just mentioned and in the case of E. S—.

(5) In some instances, as we have seen, patients have been allowed to survive the acute peritonitis and the septicæmia in their own homes without operative interference, and have presented themselves with a residual abscess, usually subdiaphragmatic, drainage of which has been followed by a complete recovery. In these cases the diagnosis has commonly been in the early stage that of appendicitis, or pneumonia, or typhoid fever; in a later stage tuberculous peritonitis is simulated. To compare with these I have examined the results of immediate laparotomy at Guy's Hospital. Eight cases admitted in the acute stage, for one reason or another, were not operated on before death. In seven of these, pleurisy, pneumonia, peritonitis or endocarditis or a combination of these were present as well as peritonitis. The eighth case died as soon as admitted. Twelve cases were immediately submitted to laparotomy. Nine of these died, four on the day following operation, the remainder within a few days. Three cases recovered, but in none is it possible to trace any immediate benefit from the operation. All passed through a long and tedious illness, marked by a persistent high temperature and rapid pulse, developed in convalescence the signs of abdominal abscess, and only recovered after a second operation by which the pus was evacuated. No case recovered as a result of immediate laparotomy without the formation of residual abscesses and without the necessity for a second operation. Such a clinical course presents a close analogy with the train of events in pneumococcal septicæmia with the more usual localisation in the lung followed by an empyema.

For these reasons I think that, although ultimately laparotomy and drainage of a residual abscess almost invariably become necessary, it is unwise to submit all patients to immediate laparotomy as a matter of routine. No doubt there are many cases in which at the onset the violence of the toxæmia is such that early death occurs under any circumstances, whether laparotomy is performed or not. There are others in whom unnecessary and premature inter-

ference is able to turn the scale against recovery. I suggest that in most cases the better plan is to wait, to place the patient in a sitting posture, to apply ice to the abdomen, to give morphia, and to endeavour to combat toxæmia by saline infusion. The choice of the time for operation is a matter requiring the nicest judgment. In many cases at the end of the second week or in the third week the curve of the temperature chart will show a change, and the high continued pyrexia will be replaced by a remittent or intermittent fever. When this occurs a daily examination should be made for evidence of a subdiaphragmatic abscess. It may perhaps be argued that to decide not only that peritonitis is present, but that the peritonitis is due to the pneumococcus, places too great a strain upon our powers of diagnosis, and that to attempt to do so will result from time to time in a disastrous refusal to operate in cases of septic peritonitis due to appendicitis or other causes. I believe, however, that a closer study of the symptoms of pneumococcal peritonitis and an appreciation of the part played by the accompanying septicæmia will enable us in a majority of cases to make a diagnosis with complete certainty. If it is recognised that the diagnosis is necessary for the benefit of the patient, I believe that it can be made.

It would appear that the cases of peritonitis which recover are those which pass successfully through the pneumococcal septicæmia. After the termination of the acute septicæmia only a minority of cases die as a result of failure to secure drainage of the residual collection of pus. This was, however, the cause of death in the last case to which I should like to refer, that of a girl, aged 11 years, who was admitted on October the 10th, 1911, with pneumococcal peritonitis, so ill that operation was delayed. She was almost comatose with incontinence of urine and fæces and seemed on the point of death. She improved greatly for three weeks, when a left subdiaphragmatic abscess was opened. Three further operations had to be performed to drain abscesses. After the last of these, unfortunately, a fæcal fistula formed, and the child gradually sank and died on December the 20th. For many weeks it seemed likely that she would recover; for three weeks before death the temperature had been normal. That she would have died at once if operated on on the day of admission is, I think, certain.

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## The Royal Society of Medicine.

### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Friday, April the 26th, 1912.*

Dr. G. A. SUTHERLAND, *President, in the Chair.*

**Bony Growth on the Skull.**—Mr. O. L. ADDISON.—Girl, aged 5 years. The swelling on the head was first noticed a fortnight after birth, and has gradually increased in size. There is a bony swelling the size of a pigeon's egg on the frontal bone just to the right of the middle line and continued as a ridge, gradually decreasing in size for two inches or more downwards and forwards to the temporal fossa. X-ray photograph shows the swelling to consist of cancellous bone.

**Exostosis of the Inner End of the Clavicle.**—Mr. O. L. ADDISON.—Girl, aged 11 years and 9 months. The swelling, only recently noticed, is said to be getting larger. On the anterior surface of the inner end of the left clavicle is a bony swelling the size of a horse-bean. The sternomastoid muscle moves freely over the tumour. An X-ray photograph does not show the tumour, but a large cervical rib is well shown on the left side and a smaller one on the right.

**Destruction of the Uvula in Vincent's Angina.**—Dr. J. D. ROLLESTON.—Girl, aged 6 years, showing loss of uvula and anterior pillars and portion of soft palate and tonsils. Free margin of soft palate presents depressed pale area of scar-tissue. Voice nasal. No difficulty in swallowing.

Admitted to Grove Hospital on January the 31st, 1912, certified to be suffering from diphtheria on the seventh day of disease. Deposit on left tonsil: 8000 units of antitoxin given.

February the 1st.—Ulceration of left tonsil and left side of uvula. A few organisms resembling diphtheria bacilli in culture; numerous cocci. February the 4th.—Ulceration of tonsil and uvula more marked. Vincent's organisms in smear.

In spite of various local measures successively adopted—viz. syringing with solution of potassium chlorate and lavender, application of methylene-blue powder, and painting with tincture of iodine—the ulceration advanced and was accompanied by much fetor, dysphagia, prostration, and insomnia. From February the 2nd to February the 20th the temperature was always above 102° F., and on February the 11th was 105.2° F. On February the 14th the uvula was entirely destroyed. The larynx was not affected. On February the 23rd local and general improvement occurred and cicatrisation rapidly took place. Vincent's organisms were still present in the throat smears on February the 22nd, but none were found on March the 2nd.

The voice long remained very indistinct and nasal, but gradually became clearer. From March the 1st to March the 9th there was some regurgitation, but none has been noticed since. Wassermann's reaction on March the 16th (Dr. Cartwright Wood) was positive, but became negative on March the 30th, without anti-syphilitic treatment. Beyond a trace of albumin in

the urine from February the 11th to February the 19th no complications occurred. The knee- and ankle-jerks remained active, and there was no sign of diphtheritic paralysis.

Discharged in good health on April the 5th. There is a slight degree of congenital ptosis of the left upper lid, but there is no family or personal history of syphilis.

**A Case of Morbus Cordis.**—Dr. F. J. POYNTON.—Boy, aged 10 years, originally came to hospital on account of vague, aching pains "all over," with some shortness of breath on much exertion. No other symptoms of any kind. No history of frequent sore throats, rheumatic fever, chorea, or any grave chest illness. Only physical signs of any abnormal character are to be found in the heart, which is apparently displaced considerably to the right, the major portion of it lying to the right of the middle line. A systolic thrill and diastolic shock are palpable at the second right costal cartilage, and here, too, upon auscultation are to be heard the only abnormal auscultatory physical signs—a rather shortened first sound followed by a systolic murmur, conducted up into the neck. The second sound is accentuated and followed by a very faint diastolic murmur conducted down the sternum to the left. The pulse is not "Corrigan" in type, and it is doubtful whether capillary pulsation is present in the lips. There are no other abnormal physical signs.

Skagrams show that the heart, though to the right, is not transposed, and that there is no material enlargement of the left ventricle.

The case presents several interesting problems of diagnosis.

**Rachitic Dwarf.**—Dr. F. J. POYNTON.—A boy, aged 11 years and 11 months. Birth: Full term; normal labour; pigeon-chested at birth. Feeding: Breast for a fortnight, then Nestle's milk up to one year. Early history: Much bronchitis as a baby; head sweated profusely. Walked at the age of 15 months. Grew till four years of age, but was quite small for his age, and was not breeched till that age. He has not grown much since. Three fits when teething; constipated as a baby. Scarlet fever at the age of 8 years; no other illness. Four sisters; neither they nor parents rickety.

Present condition: Height 3 ft. 2 in. (should be 4 ft. 6 in.). Weight 3 st. 3 lb. (should be 5 st. 6 lb.). Cranial circumference, 20½ in.; skull square, not bossed. Curves of long bones exaggerated; spade-like hands and feet. Scoliosis. Beaded ribs; keeled sternum. Harrison's sulcus; angulus Ludovici prominent. Muscles very well developed. Heart and lungs normal. Liver and spleen not palpable.

**Gumma of the Lung.**—Dr. D. FORSYTH.—Boy, aged 10 years, is the sixth of eight children, his birth being preceded by two miscarriages. One of the children died jaundiced at six weeks, another is deformed by spinal caries. The patient himself had no medical history of any interest until two years ago, when he attended St. Thomas's hospital for a swelling just above his left knee. This, after being X-rayed, was treated and disappeared, though afterwards the boy limped for a time. One year ago he developed interstitial keratitis in both eyes, the left cornea becoming permanently damaged. A couple of months ago, the keratitis recurring in the right eye, he came under the care of Mr. McMullen at the Royal Westminster Ophthalmic Hospital, who, preparatory to injecting salvarsan, sent the child to me on account of the condition of his chest.

On examination the boy was pigeon-breasted, with the following physical signs, suggesting a solid mass in the right chest: Right chest—lateral expansion defective, percussion note impaired in first space, dull at second rib down to fourth space; resonance begins again under fifth rib whence to liver dullness at seventh rib (nipple line) the note is resonant. Over the dull area the vesicular murmur as well as the vocal fremitus and vocal resonance are absent. Behind, the note is impaired opposite the first dorsal spine, becomes duller at the second, and resonant again at the fourth; breath-sounds from the first to the eighth spine rather faint and high-pitched, though at the base they are heard better again; vocal fremitus is diminished and vocal resonance diminished and rather nasal on this side. The left lung and the heart are normal.

As the X-ray photograph by Dr. Ironside Bruce shows, the right chest contains, apparently about the hilum of the lung, a large, fairly sharply outlined mass occupying a position corresponding to the physical signs. This mass, though continuous with heart and aorta, does not pulsate nor in any way displace the heart.

The Wassermann reaction is positive.

Since coming under observation the boy has not lost weight, has had no cough and no sputum, but has run a slightly irregular temperature between 90° F. and 100° F.

**Tumour on the Back.**—Mr. O. L. ADDISON.—The specimen is a hemispherical tumour  $1\frac{1}{2}$  in. in diameter, removed from a case shown at the meeting of the Section on April the 28th, 1911 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, viii, p. 260). The convex surface is covered with skin. From the centre of this surface a small sinus,  $\frac{1}{2}$  in. in length, passes inwards, to open into a thin-walled cyst  $\frac{1}{4}$  in. in diameter, containing a viscid opaque white fluid. Above this cyst is situated a larger multilocular thin-walled cyst  $\frac{1}{2}$  in. by  $\frac{3}{4}$  in., containing the same kind of fluid. Below is an irregular plate of bone, roughly triangular in shape,  $1\frac{1}{8}$  in. in length and  $\frac{3}{8}$  in. broad at its widest part. The bone is thin at the centre, has thick, rounded margins, and is covered with a thin layer of cartilage. The whole is embedded in a mass of subcutaneous tissue.

**Mucous Gastritis in Infants.**—Dr. E. CAUTLEY (*vide* p. 241).

## Philadelphia Pediatric Society.

Joint Meeting with the Philadelphia Obstetrical Society, April the 9th, 1912,  
THEODORE LE BOUTILLIER, M.D., President.

## SYMPOSIUM ON MATERNAL NURSING.

**The Ability of Mothers to Nurse their Offspring.**—Dr. J. F. CROZER GRIFFITH, who quoted a great mass of statistics, showed the high mortality-rate in the first year of life and its dependence upon the employment of artificial feeding. He discussed three questions: the number of mothers who nursed their offspring; the number capable of nursing; and the cause



of the failure of women to nurse their infants. The statistics quoted show that, although there had been a decided diminution in the frequency of nursing formerly, there was now an increase in the number of babies fed upon the breast. In the majority of cases there was not so much a lack of ability as a lack of willingness to nurse their offspring.

**The Preparation for Nursing and the Care of the Nursing Mother.**—Dr. E. P. DAVIS, by invitation, said that there might be anatomical defects in the nipple. Gentle pressure would evert a sunken nipple, and was better than the use of a breast-pump before delivery. Congenital cleft or fissured nipples should be treated by cleansing and an antiseptic ointment. Massage of the breast of pregnant women was not advisable. The greatest obstacles to successful lactation were a disordered nervous system and the toxæmia of pregnancy due to failure of the ductless glands to act. For the latter, small doses of thyroid extract should be given over long periods during pregnancy. The essentials of diet during pregnancy were milk, fruit and bread. During labour, sepsis, hæmorrhage and exhaustion must be avoided. To promote lactation the mother should nurse the infant at regular intervals, two and a half to three hours; should have much fluid, but no alcohol; and good, digestible food. Arsenic was the best tonic. A well-supporting breast bandage was recommended.

**The Treatment of Mammary Disease without the Discontinuance of Breast-Feeding.**—Dr. BARTON COOKS HIRST, by invitation, showed a series of plates of the common and rare diseases of the breasts, and discussed the treatment of each.

**Methods of Increasing the Mammary Function and Contra-indications to Nursing.**—Dr. M. H. FUSSELL said that many so-called contra-indications to nursing existed only in the minds of the laity. Social duties were no reason for not nursing a baby. No duty was superior to rearing a healthy child. Physical inability to nurse was generally imaginary. Cleanliness and care would prevent infection of the nipples. Mastitis required rest from nursing for a time only. Former inability to nurse a baby was no reason for not nursing a later infant. Illness and failure to secrete milk needed careful treatment by fresh air, exercise, diet, etc. The baby must be nursed at regular intervals; the mother must be shielded from fright or excitement; daily exercise and rest were important; so was the diet. While in a few instances infants might have to be weaned, the majority of mothers could nurse their offspring with care, firm conviction and persistence.

Dr. R. C. NORRIS, in opening the discussion, said that the matter of infant feeding very properly passed out of the hands of the obstetrician early and the responsibility rested upon the pædiatrist. So far as the ability of the woman to nurse the child was concerned, the obstetrician had observation for only a short period. Bottle-fed babies were unknown in hospital work. In private cases, the higher they went in the scale of intelligence, the less did they find indisposition to nurse the baby. Women had begun to return to their mother's view-point. Breast milk should be utilised as long as possible. No one seemed to have laid sufficient stress upon combined feeding. The mother should be taught that when her milk began to fail, she should seek instruction in the combination of breast and artificial feeding. In inverted

nipples little could be done in the way of ointments or breast-pumps. The baby was the best means of drawing them out ; sometimes the shield called the "infantibus" was successful. This acted like an old-fashioned sucker in that the baby took hold of the nipple and thus produced a vacuum. In the preparation of the nipples for nursing all that was needed was to keep them clean. Astringent preparations and ointments were of little service. During nursing, the more done to the nipples, the worse they got. They would heal, if in bad condition, by applying the lead nipples described by Dr. Hirst. Dr. Norris had abandoned massage of the puerperal breast and now used hot compresses. The only laxative he used besides salines was cascara. For small fissures of the breast, easily recognised by applying a water and alcohol compress, he used bismuth and castor oil. While encouraging women to nurse their babies, the moment the child began to be restless, lost weight and cried, he gave artificial food in addition to the breast. He believed that, if artificial feeding of the infant were raised to a higher plane of scientific accuracy and the knowledge of the specialists became the knowledge of the general profession, there would be less infantile mortality.

Dr. G. M. BOYD said that the obstetrician saw the baby for two weeks to a month, when it was referred to the family physician. The obstetrician should do all in his power to persuade the mother to nurse her child. This work began during pregnancy, in painstaking care. The jacket bandage prevented engorged breasts. The pressure of the bandage was increased if the supply was greater than the demand and the patient was purged and starved. Massage should seldom be resorted to, the rule being "hands off." The mother needed sufficient rest after delivery. Dr. Boyd was glad to hear Dr. Hirst speak of the possibility of re-establishing lactation after weeks of cessation. They were often too ready to place the infant upon artificial food.

Dr. T. S. WESTCOTT spoke a word of defence for American women of the better class. Very few women were not anxious to nurse their children. But it was appalling how frequently a satisfactory breast supply was ruthlessly sacrificed on the advice of someone, often a trained nurse. Dr. Griffith had wisely emphasised the point that they should not hasten to give up breast-feeding for minor reasons. The weight chart should be kept weekly and carefully studied by the physician. A gain of from 8 to 12 oz. could be secured weekly under favourable circumstances. When a baby only gained 2 or 3 oz. a week after a trial of four or five weeks, the mother's feeding should be supplemented by, first, one bottle, and the number should be gradually increased until weaning was accomplished. It might take a month or two before the last drop of milk was given up. The mother's secretion would not be affected by one or two bottles daily, but giving three or four bottles diminished the output rapidly. In some cases the bottle should follow each feeding. The infant whose digestive power agreed best with the formula of the mother's milk was the one that made the best out of it. It was important to avoid over-feeding the infant. Dr. Westcott advised whey in addition to the low proteid of ordinary milk mixtures.

Dr. E. E. GRAHAM said that the artificially fed babies showed the highest mortality. This was especially true among the poor, who should be educated in the bottle-feeding of infants. He allowed the baby one bottle a day, from the earliest period of infancy. The ability of women to begin re-nursing babies was most important. Babies weaned from two to six weeks earlier could often be brought back to the mother's breast.

Dr. ELEANOR S. JONES laid stress upon putting the baby to the mother's breasts early, not waiting until twelve or even twenty-four hours after delivery.

Mothers needed plenty of fluids. Practically all the sick babies were bottle-fed. It was not a question of teaching the poor how to feed the baby artificially. Physicians should impress on other physicians and mothers the necessity for urging mothers to keep babies on the breast. Until this sentiment was created, the average physician was quite ready, with the first intimation that the baby was not doing well, to suggest the bottle. In many cases, if the baby was kept on the breast, even though not gaining, and artificial food begun later, it did better than if taken off the breast early. The nurse was only the reflex of the physician; when the physicians universally declared the importance of the mother nursing her baby, the nurse would follow suit.

Dr. MAURICE OSTHEIMER said that the Children's Aid Society of Pennsylvania had established a Directory and Bureau of Registration for wet nurses, and at present had eight or more babies in homes of wet nurses. They hoped in the future to be able to have a sufficient number of wet nurses to supply requests for them. The Society's physician made Wassermann and tuberculin tests upon the mothers and the infants, thus carrying on the work in a scientific manner.

Dr. GRIFFITH added that the work of the Children's Aid Society arose from the difficulty in having some of the children satisfactorily fed in the University Hospital. They desired to find homes where women would nurse babies from the hospital besides their own babies. Nurses and physicians would supervise this work, to see that each baby was properly fed and cared for. After they had created a sentiment among the people for this, the project would succeed, as New York already had a satisfactory directory for wet nurses. The Children's Aid Society deserved all possible help in this matter.

Dr. FUSSELL stated that the trained nurse was not responsible for the prevalence of bottle-feeding, but rather meddling neighbours and friends. After a baby had once tasted bottle-milk it was hard to continue nursing. For that reason alone he puts off supplemental feeding as long as possible. The question of the wet nurse was an extremely important one and should be left in the hands of the Children's Aid Society of Pennsylvania.

A motion, made by Dr. HIRST and amended by Dr. CARPENTER, was then carried: "That a joint Committee, formed of members of both the Philadelphia Obstetrical Society and the Philadelphia Pediatric Society, be appointed to confer with the Children's Aid Society, to endorse their work in securing competent wet nurses, and to aid them in preparing a Directory and Bureau of Registration for wet nurses."

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## Société de Pédiatrie, Paris.

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*February the 13th, 1912. (Bulletin No. 2.)*

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**Early Treatment of Scoliosis.**—Mme. NAGEOTTE-WILBOUCHEWITCH showed a girl, aged 12 years, who had been under treatment since the age of six. Her health had been good up to the age of five years. After attacks of measles and scarlatina she developed a right dorsal scoliosis. The treatment consisted (1) in rendering the spinal column movable by rational exercises; (2) in developing the thoracic muscles; (3) in maintaining a correct



position at the age of seven years by means of an orthopædic corset. The correction was at present perfect. Later on attempts would be made by wearing another kind of corset without bones and by stopping the exercises to obtain a relative ankylosis in a good position.

**Giant Papulo-tubercular Bromide Rash.**—MM. HALLÉ and DORLINCOURT showed a girl, aged 7 years, on whose face were large papules having a crop of acuminated points in the centre containing pus without micro-organisms, formed by altered leucocytes. This condition, which might be confused with trichophyton or tubercle, was rare and difficult to diagnose. It followed the administration of bromides.

M. COMBY had seen tubercloid warty lesions caused by the administration of bromides.

**Laryngo-spasm following Intra-nasal Instillation of Resorcin Oil in a Boy, aged 4 months.**—M. RAILLET related the case of a feeble infant in whom the instillation of a few drops of solution of resorcin in olive oil (0.25 in 10 c.c.) was followed by cyanosis and asphyxia. The symptoms were recovered from after artificial respiration.

**Acute Peritonitis, probably Appendicular, in an Infant five days old.**—MM. CANAGNIER and HAMEL read notes of the case of an infant who on the second day after birth had passed no meconium and had regurgitations of yellowish-green matter. An enema brought away a large quantity of meconium. On the fifth day there were signs of intestinal obstruction, with great abdominal distension. At the operation a long, twisted and inflamed appendix was found. The infant did well for three days, but the abdominal distension caused separation of the stitches with extrusion of the intestines and death took place.

**Syndrome in an Infant apparently connected with Hypertrophied Thymus.**—MM. GUINON and F. MONTIER related the case of a boy who from the age of six to thirteen months presented two sets of symptoms; one seemed due to hypertrophy of the thymus as observed by radioscopy, and consisted in polypnoea with tachycardia; the other was toxic, characterised by anæmia, anorexia, diarrhoea, urticaria, etc., possibly caused by anaphylaxis to albumin.

**Paralysis of the Two External Recti of Diphtheritic Origin.**—M. TERRIEN reported a rare case of this kind. There was no paralysis of accommodation. Slight paralysis of the palate. This condition disappeared in a few days under serum treatment.

**Five Cases of Foreign Bodies in the Trachea and Bronchi.**—M. GUSEZ extracted with the help of bronchoscopy from an infant of six months two clasps which had become lodged in the right and left bronchus; in other cases a plum-stone, and a piece of meat. In two cases of very young infants, below two years of age, superior bronchoscopy was impracticable.

**Costal Osteomyelitis; Death from Septicæmia.**—MM. SAVARIAUD and PONT report the case of a girl, aged 10½ years, admitted for a purulent pleurisy. There were costal osteomyelitis and abscesses in the liver and kidneys.

**Two Cases of Supernumerary Thumbs.**—MM. SAVARIAUD and PONT. —The lobster-claw arrangement was the same in both, the principal thumb being slightly deviated towards the index, a deviation which the operation tended to accentuate. The supernumerary thumb articulated in the first case with the head of the metacarpal, while in the second it articulated with the first phalanx of the thumb. In spite of this anatomical difference the result was identical in both cases; the deviation was more apparent and had to be corrected by apparatus.

**Dried Milk in Infant Feeding.**—MM. AVIRAGNET, BLOCH MICHEL and H. DORLENCOURT issue a report on this subject founded on investigations pursued for two years at the Hôpital des Enfants Malades. Several market brands were used. In normal children it was found as efficacious in mixed feeding as either boiled or sterilised milk. Dyspeptic infants fell into four groups: (1) Digestive disorders and arrest of development in infants brought up on the breast and subjected to mixed feeding. (2) Gastro-intestinal disturbance with implication of the general health and more or less marked tendency to atrophy. (3) Digestive trouble, chiefly gastric. (4) Acute gastro-enteric conditions.

In most cases the milk powder gave excellent results, but in others it seemed to cause a little diarrhoea, which, however, passed off in the course of a few days without changing the *régime*. In some cases of syphilitic or tuberculous taint it failed to cause an increase of weight.

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**The value of percussion of the skull in children** (*Riv. di clin. Pediat.*, 1912, x, p. 32).—G. FIORE.—In a normal child from four to five years old six different zones may be distinguished, three above and three below a line drawn from the occipital protuberance to the frontal eminence, passing across the parietal eminence. The three upper and lower zones are marked out by two lines rising respectively from the posterior margin of the mastoid process and from about a centimetre behind the external angle of the orbit. The highest pitch is obtained in the upper medium zone, while the anterior and posterior give a lower pitch with a greater degree of resonance. The lower posterior zone gives a dull sound, sharp but hardly resonant; the middle a dull tympanitic sound, quite dull in its lowest part; the anterior a dull sound, slightly resonant. In older children above the age of six or seven years, owing to the presence of the frontal sinuses the resonance of this region may be a little more marked. Over the mastoid process there may be a marked tympanitic resonance. The left half of the skull gives a note slightly more resonant than the right. Within these limits of age the modifications of the cranial sound vary with different individuals, but in normal cases a definite tympanitic note of high pitch with a more or less metallic timbre is never present. In young infants whose bones are still soft the skull is little resonant, the note is dull, sharp and muffled, but in those a little older a higher pitched and more resonant note is generally obtained. The thinness

of the bones, the presence of the fontanelles and ununited sutures contribute to this result. The resonance is, in fact, greater in the neighbourhood of the sutures and becomes less as the fontanelles close. But there is another factor which contributes in giving a clearer note in young infants—the larger amount of cerebro-spinal fluid and the intra-cranial pressure, which is rather in excess of that which exists at a more advanced age. Contrary to the opinions of D'Astros and Pfaundler, Mya has clearly shown that in early life the cerebro-spinal fluid is physiologically more abundant and escapes in a continuous stream, which indicates that there is greater pressure. Recently Francioni has confirmed this (*Riv. di clin. Pediat.*, 1911, ix, p. 161). Hence the cranial percussion sound in children has a more tympanitic tone in the first two years of life and gradually diminishes. The difference between the various zones is less marked, or confused by the presence of fontanelles. The author gives his results obtained by percussion over the skull in cases of rickets, mongolism, achondroplasia, etc., for the details of which the paper must be consulted. He considers these results to be clear and important. By percussion a peculiar tympanitic resonance is elicited, which may assume various metallic tones up to the so-called cracked-pot sound; it may be diffused or localised. Such tympanitic resonance is in direct relation with the intra-cranial pressure and indicates its oscillations, but it may be also due to thinness of the bones of the vault of the skull and to widening of the sutures. Constant and marked in tuberculous meningitis in its earliest stages, often present, although in less degree, in purulent meningitis, feeble, though present, in encephalitis, absent in some forms of meningismus, it may furnish useful data for the differential diagnosis between these various affections, and between them and the vague nervous symptoms which in childhood so often complicate various infections and intoxications. Varying in direct relationship with changes in the amount of cerebro-spinal fluid, in chronic hydrocephalus and in meningococcic meningitis, and generally in every case of intra-cranial hypertension, it may serve as a useful guide to the indications for lumbar puncture. In certain cases of tumour it may furnish important data for diagnosis and for localisation.

VINCENT DICKINSON.

**Multiple malformations of the cerebro-spinal axis** (*Gaz. d. Hôp.*, 1912, LXXXV, p. 111).—**L. Rayan** and **C. Mattei** describe a case of a female child, aged 10 days, presenting a median frontal encephalocele about the size of an orange, divergent strabismus, and an inconstant rotatory nystagmus. In addition there were noted all over the cranial vault depressions analogous to fontanelles, a dorsal spina bifida, the size of a pear, which was partly ulcerated, and atrophy of the sacrococcygeal vertebræ associated with a cervico-dorsal scoliosis with the convexity to the right. There was a flaccid paralysis of both lower limbs, most marked on the left. Sensation was abolished on the left, retained on the right. Talipes equinus existed on the right side. The Wassermann reaction was negative. The infant died on the twentieth day after birth with signs of meningitis and bronchial obstruction. At the autopsy the cranial vault was found to consist of a network of osseous trabeculae, with the meshes occupied by membrane about  $\frac{1}{3}$  mm. thick; no fontanelles or sutures could be made out. The trabeculae penetrated deeply into the brain substance, accentuating the normal and creating new fissures. On section the brain was occupied by an abscess cavity, the size of a mandarin orange, formed at the expense of the three cerebral ventricles. The cerebral substance was much atrophied. The authors



attribute the condition to arrest of development dating from the second month of foetal life, and regard the only possible cause a tubercular family history.

CHRISTOPHER ROLLESTON.

**Congenital axial extra-cortical aphasia (a new disease of the nervous system)** (*Semana med.*, 1911, XVIII, p. 565).—**Merzbacher** gave the following description to the Argentine Medical Society of a disease which he regards as *sui generis*. The disease has been known twenty-five years. In 1906 a colleague sent him a brain for examination from an idiot who had passed his life in bed and who died of tuberculosis. His upper extremities had been fractured and had been amputated with a pair of scissors, so soft were they. The thorax and pelvis were deformed. He was one metre in height. The head was in continuous movement; the lower legs paralysed; speech difficult to understand. The mother said that out of six sons four were attacked in exactly the same way at their fourth month. Father and mother normal. Pelliseo had described, twenty-five years ago, a family disease which he regarded as disseminated sclerosis. It transpired that this was the same case that Merzbacher now related. The disease had continued in the family for twenty-five years. In 1885, five were affected, in 1906, twelve, and in 1911, fourteen. Although the case had been often described clinically it was the first time that its pathological anatomy could be investigated. Its transmission is interesting. The healthy mother transmits the disease, which has now been handed on to the fifth generation. It passes over two generations to reappear in the third, but of fourteen now attacked only two were females. The youngest was one year old, the oldest fifty-two years. *Premonitory symptoms* at about three months consist in nystagmus and trembling of the head. Babinski present, knee-jerks diminished, ataxia of voluntary movements. The first or spastic period is followed by paresis and contractions of the legs, feet abducted. Then paresis and contractions of the arms and neck. Examination of the brain showed that it was well formed, convolutions well developed. Atrophy of the whole commissures, narrowing of the corpus callosum and atrophy of the whole substance; grey matter normal. There appear to be sclerosed plaques but the lesions vary. In the internal capsule and peduncles there is an absence of axis cylinders.

M. D. EDER.

**Hereditary spastic paraplegia** (*La Semana Medica*, 1911, XVIII, p. 1001).—**Fernando Schweizer** demonstrated to the Argentine Medical Society a Jewish family where all the sons were afflicted with the disease. The youngest, aged 8 months, presented rigidity of the legs and increase of the reflexes. In the older boys there were abduction and increase of reflexes. They were all born at full term and were nursed by the mother; there had been no miscarriages and no specific history. It would seem that the children improved as they grew up; in the elder ones the trouble was less marked than in the younger ones.

M. D. EDER.

**Pseudo-bulbar glosso-labial paralysis in a boy, aged 12 years** (*L'Echo méd. du Nord.*, 1911, xv, p. 106).—**Deléarde** relates a case of this rare condition in a child born of healthy parents, with no history of syphilis. When six months old the infant had convulsive seizures accompanied by difficulty in suckling; after these it was fed by a spoon. Up to the age of four years there were about two convulsions a week, limited to the left side, and especially to the upper limb. There was an aura but no loss of con-

sciousness, biting of the tongue, or involuntary micturition, but drowsiness followed the fits. The face of the child was characteristic, the mouth open and dribbling saliva, the naso-labial folds obliterated, the palate motionless. Swallowing was difficult, solids having often to be pushed to the back of the mouth with the finger. The pharyngeal reflex was weakened, but sensation was preserved. The tongue was not atrophied and there was no tremor, but the movements were very feeble and it could not be protruded. The larynx produced a guttural sound, always the same, but intelligence was expressed by the gestures. The pupils were normal and there were no ocular paralyses; the hearing was normal. The muscular strength was good, but slightly diminished on the left side, where there was slight atrophy. The reflexes and gait were normal. There appeared to be a double cerebral lesion, probably in the Rolandic area at the lower part of the ascending frontal, and some irritation of the right motor zone. J. PORTER PARKINSON.

**Subarachnoid hæmorrhage in a child** (*Progrès. méd.*, 1912, XL, p. 46).—M. Griolet publishes the case of a girl, aged  $12\frac{1}{2}$  years, child of a father the subject of laryngeal tuberculosis, who was seized after exposure to rain with violent pain in the head, diarrhoea, nausea and twitchings. Complete coma ensued with stertorous breathing, jactitation, dilatation of pupils on both sides. Knee-jerk exaggerated on right side, almost none on left. Kernig's and contra-lateral signs. Contraction of back. Hardly any appreciable nuchal contraction. Three leeches ordered to the right mastoid, sinapisms to feet, and enema of chloral. The coma disappeared and the patient complained of drowsiness and severe pain in the right temple. Lumbar puncture withdrew a liquid, which flowed rapidly and under tension and was distinctly hæmorrhagic. Lymphocytes 94 per cent., polynuclears 5 per cent., eosinophiles 1 per cent., no meningococci. Cuti-reaction negative. Recovery in about three months. With the family history and lymphocytosis of the cerebro-spinal fluid the case seemed at first one of tuberculous meningitis. The subsequent course, however, was against it, and a sudden onset is very rare except in young infants. In this case most of the signs of subarachnoid hæmorrhage were present, an apoplectiform condition indicative of a sudden invasion, coma, which is always of short duration in purely meningeal hæmorrhage, contractures and blood in the cerebro-spinal fluid. Fever was noticed after the onset, attaining its maximum at the time when an improvement took place in the general condition. This "hæmolytic fever," or fever of absorption, is of favourable import. The ætiology of the case was obscure. Recovery was complete except for a slight paresis which was rapidly disappearing. VINCENT DICKINSON.

**Influenzal cerebro-spinal meningitis** (*Arch. of Ped.*, 1911, XXVIII, p. 210).—J. R. Clemens and C. W. Gould report a fatal case in a male infant, aged 7 months, in which the diagnosis was made during life by lumbar puncture. The signs of meningitis were well marked, and there was evidence of consolidation at the left apex. About six drachms of purulent cerebro-spinal fluid were withdrawn, smears and cultures of which yielded influenza bacilli. No necropsy. J. D. ROLLESTON.

**Cerebro-spinal meningitis due to influenza bacillus** (*Arch. Int. Med.*, 1911, VIII, p. 133).—L. J. Rhea records two cases. The first was a male child, aged 6 months, who died with cerebral symptoms on the fourth day of disease. Large and small intra-pial ecchymoses and hæmorrhagic

areas were irregularly distributed over the brain; microscopical areas of encephalitis not visible to the naked eye were also found. *B. influenzae* was obtained in pure culture from the meninges. The second case was a girl, aged 5 years, who died of internal hydrocephalus eighty-nine days after the onset of the disease. Left hemiplegia on the forty-fourth day. During life *B. influenzae* was obtained from the blood and cerebro-spinal fluid. The meningitis in this case was apparently secondary to involvement of the upper air-passages. J. D. ROLLESTON.

**Suppurative cerebro-spinal meningitis due to Pfeiffer's bacillus** ('*Thèses de Paris*, 1911-12, No. 40).—R. BIAQUE.—This thesis contains the histories of fifty cases, including seven original ones. The conclusions are as follows: Meningitis due to Pfeiffer's bacillus is a suppurative cerebro-spinal meningitis of acute or subacute course. It is fairly frequent in children, especially in infants. Its prognosis at this age is very grave. It is sometimes clinically primary, but it is usually preceded by pleuro-pulmonary symptoms, osteo-arthritis, abscesses, or suppurative otitis. The frequency of these associations is characteristic, and helps to distinguish the disease from meningococcal meningitis. Infection of the meninges may occur through the lymph-channels, following otitis or rhinitis. In a large number of cases it takes place by the blood. This form of meningitis may sometimes occur in epidemic foci, but these do not appear to coincide with epidemics of influenza. There is, therefore, no justification for calling the condition influenzal meningitis. J. D. ROLLESTON.

**Recovery from symptoms of tuberculous meningitis in children** ('*Bull. et mém. Soc. Méd. Hôp. de Paris*, 1911, xxxii, p. 440, and '*Arch. de méd. des enf.*', 1912, xv, p. 241).—H. BARBIER and J. GOUGELET.—Among the recorded cases of recovery from tuberculous meningitis must be classified: (1) some fifteen to twenty cases which rest on clinical findings alone; (2) eight cases which presented a remission of varying duration, but which finally died and in which the diagnosis was confirmed by the necropsy; (3) four cases in which tubercles of the choroid were associated with meningeal symptoms; (4) twenty-four undoubted cases in which the diagnosis was confirmed by the results of lumbar puncture and experiment. The authors record three cases of pulmonary or pleuro-peritoneal tuberculosis in which transitory meningeal symptoms accompanied by cerebro-spinal lymphocytosis ended in recovery. The lesions in such cases are either those of a sero-fibrinous meningitis with slight effusion or of a very discrete and localised meningitis with granulations. In some cases herpes zoster may be the sign of a tuberculous meningo-radiculitis without any other meningeal symptom. The curable cases of meningitis may leave certain sequelæ: (1) Immediate, viz. palsies of the eyes, limbs and face, disturbance of the reflexes and speech, aphasia, blindness or inequality of pupils; (2) remote, viz. headaches occurring on the slightest exertion, arrest of mental development and loss of memory. Possibly such cases are related to certain forms of juvenile general paralysis and dementia præcox. The prevention of such complications in children who have recovered from tuberculous meningitis can be realised by the general treatment for tuberculosis and the avoidance of physical and mental overwork. J. GOUGELET ('*Thèses de Paris*, 1911-12, No. 30), in a thesis on this subject inspired by Barbier, records twenty-five illustrative cases. J. D. ROLLESTON.



**Case of cured cerebral tubercle** (*Riv. di clin. Pediat.*, 1911, ix, p. 883).—**G. Fiore** reports the case of a tuberculous girl, aged 5 years, who had recovered for seventeen months from a clinical point of view from convulsive seizures of Jacksonian type due to a tubercular affection of the left Rolandic region. At a subsequent autopsy a healed lesion was found in this locality, the details of which, anatomic and microscopic, are described fully.

VINCENT DICKINSON.

**Tuberculous meningitis in a suckling** (*Zentrall. f. Kinderheilk.*, 1911, xvi, p. 407).—**L. Schaps** describes a case which proved on post-mortem examination to be one of the above disease, occurring in a child, aged 6 months. During life there had been no fever nor irregularity of the pulse, and motor disturbances were almost entirely absent. Stiffness of the neck was never present, nor hyperæsthesia of the skin. The sensory apparatus was very slightly affected. Lumbar puncture failed to assist the diagnosis as no fluid could be withdrawn.

F. R. B. ATKINSON.

## Dermatology and Syphilis.

**Dermatitis bullosa with successive exacerbation** (*Arch. de méd. des enf.*, 1911, xiv, p. 847).—**J. Comby** relates the case of a girl, aged 9½ years, suffering from a bullous eruption with erythema, the successive outbreaks of bullæ being accompanied by pain and fever at the commencement for about a month, followed by apyrexia, with disappearance of the bullæ and cure. He believes that ointments and moist applications are contraindicated and advises dry powder. In this case the patient's body was covered with talc powder, and she may be said to have lived in a sack of flour.

F. R. B. ATKINSON.

**Livedo annularis in a child** (*Arch. de méd. des enf.*, 1912, xv, p. 119).—**Jourdanet** describes this condition in a child, aged 4 years, and discusses the disease generally. This name is given to the blue marks on the skin formed by a mixture of parts coloured violet-red, and others where the skin is normal. It is due to dilatation of the cutaneous capillaries. Lymphatism and scrofula have been regarded as causes, and blueness of the extremities and chilblains are frequently met with. Bonnet (*Presse méd.*, 1909, xvii, p. 338) distinguishes a transitory form, often occurring with mild tuberculous lesions, particularly adenopathy, and a durable form, of which a special type has received the name of érythémato-inflammatoire (Balzer et Griffon, *Ann. de Derm. et de Syph.*, 1897-1898). It attacks most often the knees. The redness disappears on pressure; the epidermis is sometimes scurfy. Unna mentions some rare forms of livedo associated with ulceration. The disease can be confounded with measles, with ecchymoses, scabies (itching, localisation differentiate it), and pityriasis rosea. In this latter, squamous itching plaques on the chest, and progressing downwards, reveal the condition. It also much resembles purpura, but an examination of the thighs and legs, in which livedo is especially marked, and also the whole body, will remove any doubt. Treatment consists in stimulation of the peripheral circulation, cutaneous friction, salt baths, cod-liver oil and glyceo-phosphates. Thyroid has done good in some cases, and adrenalin might be of value.

F. R. B. ATKINSON.

**Vitiligo and chorea** ('*Monatsschr. f. Kinderheilk.*,' 1912, x, p. 572).—**K. Mallinckrodt** reports the case of a girl, aged 10 years, in whom idiopathic vitiligo occurred with chorea. The exciting cause seems to have been repeated mental shock. The association of this disease with chorea has only been described twice in the literature—by Escherich and Möbius ('*Schmidt's Jahrb.*,' 1886, CCIX, p. 251). F. R. B. ATKINSON.

**Calcareous skin and subcutaneous tumours** ('*Journ. de méd. de Bordeaux*,' 1912, XLII, p. 151).—**Charles**.—The boy, now aged 6 years, began to walk at thirteen months, but when three years old there was some stiffness of the knees and hips without any apparent cause; this increased, and at the age of five years hard nodules appeared scattered throughout the body. There were pain and limitation of the lateral movements of the neck, and of all the joints of the arms and legs; the vertebral column was rigid. Numbers of small cutaneous and subcutaneous tumours were to be felt in the skin and the subcutaneous tissue, and with the X-rays there was seen a calcareous infiltration of the aponeuroses and tendons. Walking was painful and almost impossible on account of the rigidity of the legs. The tumours showed the structure of fibromata with calcareous degeneration following on a collagenous necrosis. No cause of the condition could be found.

J. PORTER PARKINSON.

**Pneumo-hypoderma (emphysema cutis)** ('*Med. Rec.*,' 1911, II, p. 1062).—**Herman B. Sheffield** describes a case of this condition. It resulted from rupture of pulmonary alveoli and escape of air into the subcutaneous tissues, and was produced by violent coughing due to bronchopneumonia complicating measles. The patient was a little girl, aged 3½ years. The child's features were entirely effaced and her Kalmuck-shaped, congested eyes were deeply sunken between the swollen lids. The trunk and upper extremities were also affected. The child recovered within four weeks. FREDERICK LANGMEAD.

**Telangiectases in children in association with wasting and protracted diarrhoea** ('*Brit. Journ. Derm.*,' 1912, XXIV, p. 35).—**E. Greaves Fearnside**s records six cases in children, aged from one to ten years, who showed three types of rashes: (1) Erythema; (2) telangiectases; (3) purpura. These rashes were associated with oedema, wasting and diarrhoea. The writer concludes that (1) the various rashes were the expression of vascular dilatation, the most characteristic being telangiectases. (2) The rashes were the direct result of wasting, which owed its origin to protracted diarrhoea (see *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1912, IX, p. 1). J. D. ROLLESTON.

**Recklinghausen's disease in children** ('*Prag. med. Woch.*,' 1911, XXXVI, p. 375).—**Hirsch** gives the following description of three cases: (1) At the age of ten days, dark brown pigmented nævi rather less than the size of a farthing (*kreuzer*) were seen in the left inguinal region, on the sacrum and the right thigh. Ten weeks later nævi were found on the left side of the abdomen, over left trochanter, right forearm and right scapula. Later on similar pigmentation was noticed on the right knee. No tumours were seen during the child's stay in hospital. (2) A brother, at the age of three weeks, developed pigmented nævi on the right knee, the left side of the back, and the right shoulder-blade; later on two nævi appeared on the left

chest. The mother's body was beset by *nævi* and by fibromata, some sessile, others pedunculated. (3) A well-developed girl, aged 6 years, had a tumour between the ninth dorsal and third lumbar vertebræ, not placed symmetrically on both sides of the spine. The tumour was painful when touched. It was first noticed in the second year, and had recently grown rapidly. On the right forearm there was a telangiectatic *nævus*. Neither the parents nor the other children had anything of this nature. Hirsch regards the first two cases as "abortive cases" of neuro-fibromatosis (Jadassohn), and considers it probable that later on both the boys will develop fibroma molluscum.

M. D. EDER.

**Familial von Recklinghausen's disease** ('*Rev. Neurol. and Psych.*, 1912, x, p. 1).—J. D. Rolleston and N. S. MacNaughtan record a family in which the disease existed in three generations. Of the four children of the third generation the eldest daughter, aged 13 years, showed a general yellowish tinge of skin, punctiform pigment-spots, *café-au-lait* patches, numerous slightly raised molluscous tumours, and a *nævus* growth on the upper lip, which, on removal, was found to be a plexiform neuroma. The youngest daughter, aged 5 years, had a general yellowish tinge of skin and numerous pigment-spots, but no molluscum. After an attack of diphtheria the molluscum of the elder girl and the pigment-spots of her sister increased in number and size. The other two children, a boy aged 14 years, and a boy aged 10 years, both showed a slight yellowish tinge of skin, but no molluscum nor pigmentation when first seen. Four months later, however, after an attack of diphtheria, the younger boy developed some pigment patches on the trunk. A *résumé* of the twenty-two cases of familial and hereditary von Recklinghausen's disease published since 1900 is appended.

J. D. ROLLESTON.

**Multiple areas of pigmentation of eight years' duration** ('*Journ. Cut. Dis.*, 1912, xxx, p. 83).—F. Crozer Knowles records a case in a girl, aged 12 years, who at the age of four years developed multiple pigmented spots of the covered portions of the body to the almost entire exclusion of the exposed parts. There was no tumour formation. Biopsy showed an increase of pigment-cells, otherwise the skin was absolutely normal. The author regarded the condition as an *ephelis*, although the pigmentary stage of von Recklinghausen's diseases could not be absolutely excluded. A congenital defect was also a possible explanation. Marked improvement followed application of solid carbon dioxide to some of the lesions, and of trichloroacetic acid to others. A review of the literature is given.

J. D. ROLLESTON.

**Scleroderma in children** ('*Thèses de Paris*, 1911-12, No. 213).—A. Alfès.—Scleroderma in children presents the same clinical appearances as in adult life, but the generalised form is very rare. Localised scleroderma, in patches or in bands, is the form most commonly met with in childhood. This probably accounts for the disease being much less serious in children than in adults. Of Loewin and Heller's thirty-nine cases in children under fifteen years of age, twelve completely recovered, eleven showed more or less improvement, twelve no improvement, and four died. As in adults, the female sex is predisposed. The *ætiology* and pathogeny are obscure, and treatment can be only symptomatic. The thesis contains the histories of twenty-six cases, one of which is original, in children aged from one month



to sixteen years. Alfès' case was a girl, aged 7 years, with bands of sclerodermia on the antero-external surfaces of the upper and lower limbs.

J. D. ROLLESTON.

**Sclerodermia with facial hemiatrophy** (*Arch. f. Derm. und Syph.*, 1911, cvi, p. 3).—A. Afzelius records a case in a girl in whom sclerodermia, affecting the left side only, occurred after a severe attack of influenza at the age of five years. Four years later the sclerodermia had almost entirely disappeared, but left facial hemiatrophy had developed, affecting the skin and subcutaneous tissue only. This condition was still present though somewhat less marked when the patient was twenty years old. The association of sclerodermia with facial hemiatrophy suggests the same pathogeny, e.g. a trophoneurosis concerned with the fifth nerve or the sympathetic. The trophoneurosis may have been caused by an infective agent, as the patient had recently had an attack of influenza. Other cases of sclerodermia have been recorded after typhoid fever or diphtheria.

J. D. ROLLESTON.

**Severe case of Raynaud's disease** (*La Clin. inf.*, 1912, x, p. 33).—MM. Variot and Morancé showed at the Société de Pédiatrie a boy, aged 3 years, with gangrene of the nose, ears, hands and feet. He was a deaf-mute, but intelligent. The case was interesting for the following reasons: (1) The age of the patient, the disease being more common after the age of twenty years, cases at an early age being rare. (2) The absence of asphyxia and local syncope, which usually precede the symmetrical gangrene. (3) The absence of any apparent cause: no morbus cordis or exposure to cold. Hereditary syphilis was not probable although the child was a deaf-mute; there was no reason to suspect ergotism. (4) The remarkable extent of the lesions, especially in the upper limbs. The lesions are usually limited to the terminal phalanges; involvement of the nose and ears is very rare. Raynaud declared he had never seen them. The only case recorded is that of Bernard Henry in an adult in whom the lesions presented a topographic analogy with the present case. One of the authors, who had been the last assistant of Raynaud, saw at the Charité in 1881 several adults attacked with asphyxia of the extremities, but nothing even remotely resembling the extensive symmetrical gangrene observed in this child.

VINCENT DICKINSON.

**The treatment of ringworm of the scalp** (*Glasgow Med. Journ.*, 1912, i, p. 118).—J. R. Riddell deprecates the use of X rays as a routine method in the treatment of this disease. The method is effective, but in a certain number of cases (probably about 2 per cent.) there is danger of permanent alopecia resulting. The author favours the ionic method of applying antiseptics, and he considers that it is certain, rapid and safe. By this means the drug can be carried right into the hair-roots, and thus destroy the vitality of the spores *in situ*. The technique employed is as follows: The child's head is shaved or the hair is cut short all over. A solution of the drug to be used is rubbed well into the affected parts. Folds of lint (ten to sixteen-ply) are soaked in the solution and applied evenly to the surface; over this the electrode is placed and secured by a few turns of bandage. It is important that the lint should overlap the diseased area, and that it should be thoroughly moistened. The electrode may be made of any convenient metal. The author generally uses copper gauze, as it is pliable and adapts itself easily to the surface. It should be large enough to cover the diseased area. One pole of the supply is attached to the electrode which is

on the head; the other is connected to a water bath in which the child's arm or foot is immersed, or to a large, well-moistened pad, which may be bound to the arm or leg. The current is now slowly turned on and increased gradually, the aim being to increase it as much as possible short of actual discomfort. When the area under treatment is large the child usually allows 15 to 20 ma. to be used. Each sitting should be as prolonged as possible, generally from forty to fifty minutes. The solution used is either a 1 per cent. solution of mercuric chloride or a 2 per cent. watery solution of iodine. The treatment should be repeated two or three times a week. It is well to have the head washed daily or every other day with an antiseptic, such as the sulphur,  $\beta$ -naphthol, and green soap mixture commonly prescribed. If the treatment makes the scalp scaly or irritable, a mild antiseptic oil may be used between the sittings, but it must be thoroughly removed before making ionic medications.

J. ALLAN.

**Serum diagnosis in infantile heredo-syphilis and family syphilis** (*Arch. de méd. des enf.*, 1911, xiv, p. 881).—**Leroux** and **Labbé** report their investigations on this subject carried on at the Furtado-Heine Dispensary, Paris. They obtained a positive reaction in nearly all cases of early heredo-syphilis with active symptoms, in 85 per cent. of late heredo-syphilis, in 11 per cent. of latent cases; in heredo-parasyphilis (dystrophies and degenerations) and in healthy children born of syphilitic parents the reaction was always negative. The mothers of syphilitic children gave a positive reaction in 71 per cent. of cases, whether they had symptoms of syphilis or not. The fathers of syphilitic children gave it in 42 per cent. The authors conclude—(1) that maternal syphilis is more often conceptional than derived by direct infection from the father. (2) That the mother is infected in the great majority of cases; hence the rarity of purely paternal transmission. (3) That active maternal syphilis with a positive reaction generally gives rise to virulent infantile syphilis, sometimes to latent syphilis with positive reaction, more rarely to infantile syphilis with negative reaction, occasionally to healthy children. (4) That latent maternal syphilis with negative reaction nearly always gives rise to parasyphilis or to healthy children, occasionally to syphilitic children with positive reaction, with or without symptoms. (5) That paternal syphilis (the mother being healthy with positive reaction) only gives rise to parasyphilis with negative reaction or to healthy children. (6) That if the father and child give a positive reaction, so does the mother always. (7) That treatment has no constant effect on the reaction, and the latter gives no certain therapeutic indications. Serum diagnosis gives no precise information as to cure or immunity.

C. F. MARSHALL.

**Wassermann's reaction in congenital syphilis** (*Arch. f. Derm. und Syph.*, 1912, cxi, p. 91).—**W. Thomsen** and **H. Boas** investigated a large number of cases, and came to the following conclusions: (1) The children of syphilitic mothers are much more frequently born healthy and remain so when Wassermann's reaction in the mother's blood is negative than when it is positive. A negative reaction, however, in the mother is only of prognostic significance when she has not recently been under treatment. (2) Children who show signs of congenital syphilis after birth have not always a positive reaction at birth, but invariably give a positive reaction when the disease shows itself or shortly before. (3) In isolated cases children may give a positive reaction at birth without showing signs of syphilis later. Presumably in such cases there is a transmission of reacting substances

from the mother to the foetus. (4) Syphilitic changes in the umbilical cord and placenta may sometimes occur in children who prove to be syphilitic later, although their blood gave no reaction at birth. The examination of the blood in the newborn should therefore be combined with an examination of the placenta and umbilical cord. (5) The presence or absence of a positive reaction in latent congenital syphilis probably depends on the period of pregnancy at which the foetus was infected. (6) Children and older persons with various manifestations of congenital syphilis always give a positive reaction. (7) The amount of reacting substances in congenital syphilis, and their resistance to mercury, etc., are considerably greater than in the acquired disease. (8) The mothers of syphilitic children are themselves syphilitic.

J. D. ROLLESTON.

**Latent syphilis in mother and child with positive Wassermann's reaction** ('*Hospitalstidende*,' 1912, LV, p. 74).—L. Nielsen reported to the Danish Dermatological Society the case of a woman and her daughter, aged 14 years, who both gave a strongly positive Wassermann's reaction. Apart from Hutchinson's teeth in the child, neither had ever shown any signs of syphilis or had had any anti-syphilitic treatment. The mother gave the following history: She had first been married to a syphilitic husband and had given birth twenty years ago to a child with congenital syphilis. She was afterwards married to a healthy man and became pregnant again six times, the first pregnancy ending in an abortion, the second in the birth of the girl with Hutchinson's teeth, and the third in the birth of a syphilitic child. Her last three children had been healthy.

J. D. ROLLESTON.

**The spirochæta pallida in the nasal secretion in congenital syphilis** ('*Arch. f. Derm. und Syph.*,' 1911, CX, p. 211).—J. Haavaldsen examined the nasal discharge for the *Spirochæta pallida* in 30 cases of congenital syphilis in children, aged from a few hours to six months. Five preparations in each case were made. In 31 out of 150 preparations, *i. e.* over a fifth, the organisms were found. They were only present in small amount, were most abundant in cases where the skin and mucous membranes showed characteristic lesions of congenital syphilis, and very scanty in cases in which nasal discharge was the only symptom. Haavaldsen concludes that the examination for the *Spirochæta pallida* in the nasal secretion has not a great diagnostic importance.

J. D. ROLLESTON.

**Heredity of syphilis** ('*Arch. f. Derm. und Syph.*,' 1911, CX, p. 439).—R. Krefting examined the serum of twenty women who gave no history of syphilis, but were the mothers of syphilitic children or fetuses. In every case Wassermann's reaction was positive. He thinks that the only acceptable mode of transmission of syphilis to the offspring is infection of the foetus *in utero* by the mother. The term "hereditary syphilis" should be abolished and replaced by "congenital syphilis," as infectious diseases cannot be transmitted by heredity.

J. D. ROLLESTON.

**The fate of heredo-syphilitic children** ('*Arch. f. Derm. und Syph.*,' 1911, CVI, p. 17).—F. Bering records 37 cases of *syphilis hereditaria tarda*, *i. e.* that form of inherited syphilis in which the disease may remain latent long after birth, up to and even after puberty, and then manifest itself by symptoms that belong to the late period of syphilis. In 19 there was no history; in only 4 did the father and in 6 the mother admit infection; in 8



Wassermann's reaction in the mother was positive. On the average the disease first showed itself in the eighth year. In the earliest cases it was first noted in the first year, and in the latest in the twenty-sixth year. In 26 cases, however, in which syphilitic manifestations were first observed comparatively late in life, radiating scars about the mouth or Hutchinson's teeth showed that symptoms had been in existence much earlier. Wassermann's reaction was positive in 73 per cent. of the cases in which it was used, a positive result being most frequently obtained in cases which had most symptoms. The most frequent lesions were as follows: Disease of one or both knee-joints (16 cases); in two of these cases other joints were affected; glandular swellings (19 cases), most frequently of the cervical, less frequently of inguinal and epitrochlear regions; parenchymatous keratitis (27 cases), in some associated with choroiditis; bony deformities (26 cases), of which saddle-nose was the most frequent (14 cases). Hutchinson's teeth were found in only 11 cases; small and irregular teeth were more frequent. Radiating scars about the lips were noted in 8 cases. Deafness was found in only 2 cases, and mental disturbance in only 3. Bering holds that the prognosis of parenchymatous keratitis is relatively good, as his cases regained almost normal vision under treatment. The prognosis of bone and joint affections is much more unfavourable as they resist treatment and frequently relapse. In three cases "606" was used; in two it had no effect, and in one there was a rapid disappearance of extensive gummata.

J. D. ROLLESTON.

**Household syphilis (*syphilis æconomica*) and acquired syphilis in children** ('*Bristol Med.-Chir. Journ.*,' 1911, xxix, p. 301).—J. A. NIXON records six cases, four of which occurred in children. (1) Girl, aged 15 years, chancre of dorsum linguæ, mucous tubercles on tonsils, shotty glands in neck, and later roseola. Her mother had recently been treated for syphilis acquired by extra-conjugal intercourse, and the father was under treatment for secondary iritis. (2) A woman infected by her husband gave birth to a syphilitic baby which died soon after birth. Within two months the baby's sister, aged 2 years, was found to have a sore throat, roseola, and condylomata. The primary lesion was not discovered. Two months later the woman's sister's child, aged 8 months, acquired a chancre of the lower lip and infected its mother's breast. (3) Girl, aged 14 years, with gummata of legs following chancre of cheek at four years, acquired from her mother, who had been infected on the finger when a ward-maid in a lock ward. (4) Girl, aged 4 years. Chancre of left tonsil. Source of infection obscure. Chancres in children are small, almost always extra-genital, and are frequently mistaken for non-syphilitic affections. The mouth, tongue, and especially the tonsils are the commonest sites. The secondaries are often benign and are less severe than in congenital syphilis (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, viii, p. 283, and 1910, vii, p. 415).

J. D. ROLLESTON.

**? Acquired syphilis in a patient with Hutchinson's teeth** ('*Hospital-stidende*,' 1912, lv, p. 258).—L. NIELSEN showed at the Danish Dermatological Society a girl, aged 17 years, admitted to hospital for what was apparently a chancre of the left tonsil. The lesion showed several spirochætes, and Wassermann's reaction was strongly positive. In addition to a general microdontism the upper central incisors showed Hutchinson's deformity. The father had died of tabo-paralysis (Wassermann positive) and the mother had aborted twice.

J. D. ROLLESTON.

**Syphilitic arthritis** ('*Allg. Wien. med. Zeit.*,' 1911, LVI, p. 538).—**Pollak** demonstrated to the Vienna Gesellschaft für Kinderheilkunde a boy, aged 5 years, who had been suffering for six weeks from swellings of both knee-joints. There was at first a slight rise of temperature. Salicylates had no effect; Röntgen rays showed the absence of any lesion. A positive Wassermann's reaction proved the presence of syphilis. He mentioned the case of a girl, aged 11 years, who for five years had intermittent hydrops of the knee without pain or fever. In cycles of fourteen to twenty-one days there would appear regularly a swelling of one knee, followed by that of the other. Wassermann's reaction was positive: 0.3 grm. salvarsan was injected. Eight months had since elapsed without any return of the hydrops.

M. D. EDER.

**Syphilitic lepto-meningitis in sucklings** ('*Jahrb. f. Kinderheilk.*,' 1912, LXXV, p. 222).—**G. Rach** describes this case in a child, aged 4 months, in which the *Spirochæta pallida* was found in the cerebro-spinal fluid. The necropsy showed marked hyperæmia of the pia mater with exudation, both fibrinous and purulent. The author briefly mentions similar cases from the literature, and he considers that the presence of the spirochætæ in the cerebro-spinal fluid in sucklings shows a severe, active, true syphilitic disease of the central nervous system or its membranes, with the proviso that they are not to be found in the blood.

F. R. B. ATKINSON.

**Syphilis and diseases of the ear** ('*Am. Journ. Derm.*,' 1912, XVI, p. 193).—**E. P. Fowler** examined 128 cases of ear disease, 66 of which were in children, by Wassermann's reaction, with the following results. The diseases of the ear most frequently accompanied with positive reactions were the acute and chronic suppurations. Seven out of 61 such cases gave strongly positive reactions. The number of other ear diseases in children was not sufficient to base any reliable conclusions upon. Fifty per cent. of the cases were acute inflammations, and all but two gave a positive reaction; of 27 chronic cases, 5, all cases of suppurative otitis media, were strongly positive. Hypertrophied tonsils and adenoids were present in 43 cases. Only 4 of those were strongly positive, and were all cases of chronic suppurative otitis. A positive reaction was twice as common in females as in males.

J. D. ROLLESTON.

**Treatment of syphilitic sucklings with salvarsan** ('*Jahrb. f. Kinderheilk.*,' 1912, LXXV, p. 131).—**Noeggerath** advocates the use of a concentrated solution of salvarsan—0.1 grm. of salvarsan in 2 c.cm. of Weintraud's alkaline solution. He also recommends injection into the cranial veins, because of the difficulty in injecting the veins of the arms in infants without exposing them by a surgical operation. When the child cries the veins stand out. He puts the minimum efficacious dose at 2 mg. per kilogram of body-weight, but says that the dose should be increased when possible up to 0.1 grm. for each injection. As regards the results obtained by this treatment, while recognising the rapid symptomatic effect of salvarsan, he is not convinced that it is more rapid than that of mercury. In spite of this admission, he advocates combined treatment with mercury and salvarsan. Of his twenty-eight cases, nine died (*morituri te salutant!*).

C. F. MARSHALL.

## Reviews.

DEN WASSERMANN'SKE REAKTION OG DENS KLINISKE BETYDNING. By  
RUDOLF KREFTING. Kristiania, 1911.

IN this monograph Dr. Krefting reviews the Wassermann reaction at length, but the part which concerns us here is the so-called heredity of syphilis. He examined the blood of twenty mothers who had given birth to syphilitic children or fœtuses, and in whom there was no history of syphilis. In all the cases the Wassermann reaction was positive. In this Krefting has confirmed results arrived at by others. He concludes that syphilis in the new-born [apart, of course, from accidentally acquired syphilis.—G. P.] is due to the syphilis of the mother. He further considers that the term "congenital" is better than "hereditary." This is a point I insisted on in the discussion on "Inherited Syphilis" before the Society for the Study of Disease in Children in 1907, when I stated that the English term "congenital" was preferable to the continental one "hereditary." I insisted then on the maternal origin of congenital syphilis and considered the paternal theory was incorrect. Before 1907 and since, I have expressed the same view held by many other observers. Krefting refers to the "pebrine" of silk-worms, and apparently accepts the correctness of a "germinative transmission" of disease in that case. But, as I pointed out in 1907 ('Rep. Soc. Study Dis. Child.,' 1908, viii, p. 76), neither Matzenauer nor myself had been able to verify the statement in the work of Pasteur relating to the silkworm disease. Professor Bateson in his paper on "Mendelian Heredity" ('Brain,' 1906, xxix, p. 157), stated "that it was possible some diseases might be due to the transmission of the disease germ through the reproductive cells as in pebrine." I called Professor Bateson's attention to the contention of Matzenauer and myself, and he replied that "Dr. Pernet properly insists that the transmission of a disease germ in the egg is not the same thing as in the reproductive cells." Krefting's researches also confirm what others had also shown with the Wassermann reaction, that old Abraham Colles's observation was correct.

G. PERNET.

ANOMALE KINDER. Dr. med. L. SCHOLZ, Direktor der Provinzial-Irren- und Idiotenanstalt in Kosten. Berlin: Karger, 1912. Pp. 442. Price 10 marks.

THIS book is not written entirely for medical men, but is intended for parents, teachers in educational institutions, and all who have to do with abnormal children, consequently it partakes of the semi-popular rather than the scientific, and contains nothing that is new to the physician who has had experience of abnormal children. And this term, it should be noted, is restricted to the mentally abnormal. It is divided into fifteen sections, which deal with such matters as the bounds of mental health, heredity and degeneracy, feeble-mindedness and some of its varieties with their chief characteristics, nervousness, hysteria, epilepsy, the various psychopathic conditions of children (divided into twelve groups), prophylaxis, treatment and social care, etc.

As the author remarks at some length, there is considerable difficulty in defining the mentally abnormal in view of the wide range of variation;



he looks upon those whose talents place them above the average mass of mankind as being just as abnormal as those at the lower end of the scale. One essential characteristic of abnormality he regards as a want of harmony and a general condition of unstable equilibrium. The section dealing with feeble-mindedness is accurate but somewhat meagre. It is interesting to note that whilst Mongolism occurs in England to the extent of about 5 per cent. of all aments, the proportion in Germany, according to the author, is only 1 per cent. Under the section devoted to hysteria he describes several epidemics of this affection amongst school-children, which, as the condition is rare in this country, are worth quoting. In a school at Meissen in 1905 a girl, aged 13 years, was attacked with a trembling of the hands. Within three months sixty-six girls, aged nine to thirteen years, were similarly affected, so that the school had to be closed, and the epidemic gradually spread until two months later 237 girls were affected. The trembling chiefly affected the hand and forearm of one side, began suddenly, and lasted from a few minutes to half an hour or even longer. Many children had several attacks a day, others only one or two a week. Another epidemic occurred in 1892 in a village school near Liegnitz, and consisted of attacks of convulsions, which were often so violent that the girls fell off the benches on to the floor. In one week twenty out of thirty-eight scholars were affected, eight with loss of consciousness. The epidemic died out during the summer holidays, and, as in the other case, it was confined to girls.

The section dealing with the psychopaths is a description of the chief varieties of mental abnormality standing on the borderland between sanity and insanity, and will doubtless be found very useful by those for whom it is intended. With regard to causation generally, the author is convinced of the great importance of heredity, although the antecedent condition is not necessarily identical with that occurring in the patient: for instance, he finds that nearly one third of epileptics come from alcoholic parents. Prophylaxis, therefore, must chiefly consist in the application of eugenic principles. As Bunge says, the worst criminal is he who poisons the germ-cells, and the author pertinently asks, "Why should it be impossible to prohibit the marriage of patients suffering from hereditary diseases and of hereditary criminals? not on the ground of personal freedom, for the State already interferes largely with this in the cause of health, as in infectious and mental diseases. . . . If knowledge is not yet sufficient for laws, we still might advocate medical examination before marriage." In fact, the author enters a powerful plea for eugenics. If his table of developmental data is to be relied upon there would appear to be considerable differences between the children of England and Germany, for he states that the normal child crawls on the floor at the sixth month, whilst it is only by this time that he opens his mouth eagerly on seeing the bottle.

It will be seen that the book covers a great deal of ground, and although some sections are handled in a comprehensive manner, others are decidedly sketchy. This is probably due to the fact that the author is writing chiefly from his own personal experience, and although this method is of considerable value, especially in the present case, it somewhat militates against the volume's utility as a text-book. It contains practically no references to recent work in France, America and England, and not a single illustration.

A. F. TREDGOLD.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

JULY, 1912.

No. 103.

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**Original Articles.**

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RENAL INFANTILISM.

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OF recent years a good deal of attention has been paid to the subject of infantilism, or asexual ateleiosis. By these terms is meant a condition of retarded development in which the growth of the sexual organs is particularly backward, the latter characteristic being the point of differentiation of this class from sexual ateleiosis, in which the dwarf is of the "small adult" type.

This delay in development has been traced to numerous causes, the imperfect functioning of various organs or the presence of different diseases. By these means sub-groups of infantilism have been described.

From the consideration of recent cases reported there can be recognised a type of infantilism associated with, and apparently due to, a perversion of the renal functions. It is the purpose of the present communication to study this group.

## NOMENCLATURE.

The cases to be included in this group are alike only in that they appear to be due to the perversion of the renal functions, for the evidence shows that the actual condition of the kidneys is not the same in all cases. It would seem best, therefore, to adopt for this type of infantilism, as Dr. Otto May (2) has adopted, the title of "Renal Infantilism." This has the advantages of being sufficiently broad to include all the cases, and of bringing the nomenclature of this class into line with that of other known types of symptomatic infantilism which are dependent on the abnormal functioning of other organs, *e. g.* intestinal, pancreatic, hepatic infantilism.

## SYMPTOMATOLOGY.

The degree of infantilism present is variable. In most of the cases where organic renal disease is present it has been marked, the child being of a stature corresponding to a considerably younger age. Thus in one case the patient, aged  $9\frac{3}{4}$  years, was only a trifle taller than his normal brother of  $3\frac{1}{2}$  years. In another the patient of 9 years was shorter than his brother aged 5 years. The mental development usually corresponds to the stature rather than to the age of the patient. Where no organic disease is present in the kidneys the infantilism is of a less severe grade. Genu valgum has been noticed in several of the cases. It may be regarded as evidence of the imperfect osseous development which obtains in other types of infantilism.

Of more interest are the special characteristics of the renal class of infantilism. Of these the most prominent are polydipsia and polyuria. The thirst is severe, and may be the cause of the patient's coming under observation. The polyuria is marked, sometimes extreme, as in a case in which the patient passed in twenty-four hours a weight of urine equal to one fourth of his body-weight. Bed-wetting, repeated two or three times nightly, is likely to be present.

As the result of the polyuria the skin of the patient is very dry and the face rather characteristically wrinkled. This is shown in Fig. 1, where even the professional photographer has failed to obliterate all the lines of the face. The complexion is often of a pale yellow tint. In some cases marked anæmia is present.

In the group of cases without organic renal changes (diabetes insipidus) all the symptoms are of a less severe type than where chronic renal disease is present.



The age at which the symptoms were first noticed by the parents is of considerable interest. In many cases the polydipsia and polyuria were stated to have existed since birth, and in these growth was impaired from infancy onwards. In others the child was stated to be normal for the first few years of life, the thirst, polyuria and retarded growth manifesting themselves at some period of childhood.

The urine is much increased in amount, a daily output of 50–70 oz. being common. It is of very low specific gravity (1002–5). The other changes in the urine depend upon the actual condition of the kidneys and will be described later.

Cardio-vascular changes are present in some cases and are of much interest (*vide* ætiology of Group 1). They consist of hypertrophy of the left ventricle of the heart, heightened blood-pressure, and thickening of the arterial walls, which may be first recognisable in the brachial arteries.

#### CLASSIFICATION.

On a pathological basis cases of renal infantilism may be divided into two groups:

Group 1: Renal infantilism with organic renal disease (chronic interstitial nephritis).

Group 2: Renal infantilism without organic renal disease (diabetes insipidus).

These two groups will now be considered separately.

#### GROUP 1: RENAL INFANTILISM WITH ORGANIC RENAL DISEASE (CHRONIC INTERSTITIAL NEPHRITIS).

In the cases to be described in this group (two of which have not been previously recorded) there will be seen to be many similarities and only two points of difference. These latter consist of the presence or absence of cardio-vascular changes, and the age at which the symptoms were first noticed. These clinical differences are of considerable interest, which is enhanced by the fact that they do not appear to correspond to any pathological differences. Autopsies, as will be shown in the section dealing with the morbid anatomy of this group, have been made in the main types of case falling under this heading, and in each one the same changes, those of chronic interstitial nephritis, have been found in the renal disease present.

(a) *Symptoms Congenital ; no Cardio-vascular Changes recognisable.*

Of this type of case, the most interesting subdivision of Group 1, we have two examples. The first quoted is that already recorded by Dr. H. Morley Fletcher, to whom belongs the credit of being the first to point out this association of symptoms. Case 2, not previously reported, is one of extreme interest in that it tallies in almost every detail with Case 1, and coming to autopsy, was found to be a case of chronic interstitial nephritis.

CASE 1 (Fletcher [1]).—Boy, aged 6 years ; has not grown since the end of his first year. Polyuria since birth ; at four months is said to have taken four pints of fluid daily. Genu valgum developed at five years.

*Family history.*—Eldest child ; one sister, healthy. Mother has phthisis. Has had one miscarriage.

*Present state.*—Height, 2 ft. 7 in. ; weight 21 lb. Wearing clothes made for him when two years old. Drinks about  $3\frac{1}{2}$  pints daily. Intelligence good. Testicles undescended. Urine : amount 40–70 oz. daily ; sp. gr. 1005 ; albumin, 0.16 per cent. ; granular casts occasionally present. Kidneys palpable. Cardio-vascular system normal ; blood-pressure, 75 mm. Hg. Inherited syphilis ; no clinical evidence, Wassermann negative.

*Course.*—Thyroid extract given without improvement.

CASE 2 (Miller).—Girl, aged 6 years.

*Past history.*—Polyuria noticed since birth ; later would wet the bed two or three times in the night, soaking through more than one mattress. Thirst not noted until child was weaned at eight months, when she required an abnormal amount of fluid. At no time in her life did she pass a night without waking up in order to drink. At birth she was extremely small ; said not to be more than 2 lb. as a guess. She was not short-coated until she was eight months old, and she was nicknamed “ Dolly ” on account of her small size. At three years she was admitted into St. Mary’s Hospital with diarrhoea and vomiting. She was then noted to be very small, weighing only 14 lb. Heart normal. Urine not recorded. Did not walk until she was four years old ; no knock-knee. She was backward mentally, saying only short words.

*Family history.*—Youngest child. One brother, aged ten, healthy, showing no signs of syphilis. Between son and patient there were two miscarriages, at four and ten weeks respectively. Mother says she was very weak from the latter miscarriage when she became pregnant

with patient. Mother recently tested for Wassermann reaction; result negative.

*Present state.*—Patient only 3 ft. high. Admitted to hospital with uræmic convulsions. No hypertrophy of the heart could be recognised then or when seen two days previously in out-patient department, where she had been brought up for five days' constipation, and was treated with castor oil. Complexion very sallow. Body small, thin, and yellow in colour. Child died two hours after admission. No urinary examination made.

*Autopsy.*—Chronic interstitial nephritis found; very slight hypertrophy of left ventricle (*vide* "Morbid Anatomy").

Although in Case 2 no examination of the urine was made, there is no reason to doubt, considering the clinical history and the condition of the kidneys, that it would have corresponded exactly to the urine in the other cases of this group.

*(b) Symptoms Congenital; Slight Cardio-vascular Changes  
recognisable.*

The next case is of interest in that it seems to form a connecting link between the above cases in which no cardio-vascular changes could be recognised, and the next type in which such changes are marked. In it the left ventricle was slightly but definitely enlarged, the blood-pressure raised to 130 mm. Hg., and the brachial arteries were unduly palpable. A further point of interest in this case lies in the fact that the child was nearly ten years old, the oldest of those reported in whom the symptoms have been noted since birth.

This case has been previously reported (3), but some additional information about the child is now available.

CASE 3 (Miller [3]).—Boy, aged  $9\frac{3}{4}$  years. Full-term child, said to be a good size at birth. Polyuria and polydipsia since birth; worse since an attack of diarrhoea at 5 months. Grew very little; still on bottle at three years; not put into breeches until four years old on account of small size. Measles at four years. Knock-knee developed when he began to walk.

*Family history.*—Parents' ages at birth of child—father thirty-three, mother thirty. Fifth in family of six, others normal. No deaths, no miscarriages.

*Present state.*—Height 3 ft.  $1\frac{1}{2}$  in.; is only a trifle taller than his brother aged  $3\frac{1}{2}$  years (*vide* Fig. 2). Proportions according to Stratz's tables are those of a child of under six years. Weight 34 lb. Intelligent but very childish, the mental development being in





FIG. 1.—Case 3 (on right), aged  $5\frac{1}{2}$  years, with normal brother, aged 8 months; showing wrinkled skin and sunken eyes.



FIG. 2.—Case 3 (on left), aged  $9\frac{3}{4}$  years, with normal brother, aged 3 years; showing short stature and knock-knee.

keeping with his size rather than his age; speaks well, can understand well, can read very little, can write his own name. Is still in infants' school. He is markedly anæmic; his face is sallow and wrinkled (Fig. 1); lips very pale.

*Genito-urinary system.*—Kidneys not enlarged; marked phimosis. Testes descended, small. Urine: Passes 40–60 oz. in hospital daily; sp. gr. 1001–4; persistent trace of albumin, only once absent, lessened slightly by rest in bed; by Esbach, 0.02 per cent; urea 0.65 per cent. On one occasion there was a very large number of granular casts, on others few or none. Urine sterile.

*Cardio-vascular system.*—Slight enlargement and hypertrophy of left ventricle, clinically and by skiagram; apex-beat just external to nipple-line. Pulse-rate persistently 100–120. Radial arteries not thickened but brachial quite palpable. Blood-pressure by mercurial manometer 130 mm. Wassermann reaction, negative.

*Course.*—Under occasional observation for two and a half years; very little change. Grew about an inch in stature. Symptoms less marked, probably owing to education. Pallor increased. Thyroid extract given without benefit. Child died (March, 1912) of acute pneumonia; no autopsy made.

(c) *Symptoms Congenital; Marked Cardio-vascular Changes recognisable.*

The next two cases show well-marked cardio-vascular changes at the ages of 6½ and 3½ years; in both the symptoms existed since birth.

The first case has already been published, including the pathological examinations of the organ. The second case (Case 5) has been not previously recorded.

CASE 4 (Parsons [5]).—Girl, aged 6½ years. Small at birth and during infancy. Polyuria and polydipsia since birth.

*Present state.*—Physically and mentally a child of three years. Heart hypertrophied; œdema present. Broncho-pneumonia developed, and rapidly proved fatal. Urine (during terminal illness): Sp. gr. 1010; faint trace of albumin; no casts.

*Autopsy.*—Broncho-pneumonia; chronic interstitial nephritis; hypertrophied left ventricle (*vide* "Morbid Anatomy").

CASE 5 (Parsons).—Girl, aged 3½ years. Polyuria and polydipsia since birth; grew little, sat up late; weight at three years, 16 lb.

*Family history.*—Fifth in family of six; others normal.

*Present state.*—Physical and mental development of child of

eighteen to twenty-four months. Weight 20 lb. Pale, cyanosed, wasted. No genu valgum. No evidence of syphilis. Heart shows some hypertrophy of left ventricle. Arteries normal. Œdema variable, sometimes of face, feet, legs, vulva with ascites. Urine: amount varies with œdema; sp. gr. 1001-4; faint haze of albumin, occasionally absent; no casts; urea 0·8 per cent.

(d) *Symptoms originating after Birth.*

This type of case does not appear so common as the foregoing as a cause of infantilism. In the three cases of this type, the first, reported by Dr. Otto May (2), appears to have been normal for the first four or five years, after which, with the onset of polyuria and polydipsia, development became much retarded, and the general condition of the patient simulated that of those described above. The other two (Cases 7 and 8) are those which were mentioned by Dr. Naish in the discussion on Case 3, which took place at a meeting of the Section for the Study of Disease in Children, Royal Society of Medicine (4). Although details are not given of these cases they are included here, as Dr. Naish has very kindly permitted us to compare the sections of the kidneys of his cases with those of our own.

CASE 6 (May [2]).—Boy, aged 9 years. Normal at first, but has hardly grown since he was between five and six years old. Never robust. Suffers from polydipsia, polyuria and enuresis.

*Family history.*—Fifth in family of seven.

*Present state.*—Corresponds to a child of four to five years; brother of five years is taller and heavier than patient. Complexion: yellowish skin, very dry and wrinkled. Urine: passes 700-1600 c.c. daily (average 1250 c.c.); considerable cloud of albumin; occasionally a few granular casts. Heart normal; brachial arteries more palpable than normal; blood-pressure, 60-100 mm. Hg. Wassermann reaction negative.

CASES 7 and 8 (Naish [4]).\*—Boys, aged 16½ and 9½ years. They appeared about ten and four years old respectively. Both had genu valgum developing at fourteen and eight years old. Both were small at birth and very much smaller than the other members of their families, who were all apparently normal. Both had "polyuria and polydipsia for a considerable portion of their lives."

*Autopsies.*—In both there was a condition of chronic interstitial nephritis present (*vide* "Morbid Anatomy").

\* Dr. Naish's cases will be published in full in our next issue.—ED.



This type of case, therefore, strongly resembles the types in which the symptoms are congenital in every way except the age at which the symptoms develop. So close is the resemblance indeed that it may be that in these cases the early symptoms have escaped the parents' notice, and that in reality the symptoms were present from birth. Certainly, however, we cannot conclude that this is so, although such a view is rather tempting. There is, on the other hand, no theoretical difficulty in accepting the possibility of post-natal cases similar in every other way to congenital cases.

#### MORBID ANATOMY OF GROUP 1.

Five out of the eight cases recorded here have died, and of these, four (Cases 2, 4, 7, and 8) have been examined pathologically. In the two first of these full clinical and pathological data are available, and they make a most interesting pair of cases for comparison. In both the symptoms were congenital; both children were about six years old at death. In Case 2, cardiac hypertrophy was not recognisable during life and was barely certain after death, whereas in Case 4 it was well marked and easily discovered before death; yet, contrary to expectation, the renal changes in the two cases were almost identical. Case 2 is of further interest in that it died of uræmic convulsions.

The morbid anatomy in Case 2 will be described first and the changes in the other cases compared to it.

**CASE 2.**—(Symptoms congenital; cardio-vascular changes not recognisable during life; death at six years from uræmic convulsions.)

Thymus degenerated. Brain congested. Lungs congested. Liver slightly fatty. Spleen congested. Adrenals, pancreas, alimentary tract, genitals and glands normal.

**Heart.**—Pericardium normal. The cavity of the left ventricle was not enlarged, but comparing the wall of the left ventricle with that of another child of six years, it was thought to be very slightly hypertrophied. Myocardium appeared healthy, firm, and of good colour. Endocardium normal. Arteries normal.

**Kidneys.**—Both very small, weighing together just over 1 oz. Length 4.3 and 4.75 cm., breadth 3 cm. They both presented an exactly similar appearance. The capsules were scarcely at all thickened, and stripped very easily, leaving a coarse granular surface. There were no cysts, the granules being solid and consisting apparently of compensatory hypertrophy. Stellate veins injected. On section the parenchyma was firm and pale. The cortex was

greatly diminished in width (4–6 mm.) though there was some compensatory hypertrophy between the pyramids. The pyramids were firm and fibrotic. Organs anæmic but vessels prominent. Pelves slightly granular. Ureters normal. Bladder contracted, appeared normal.

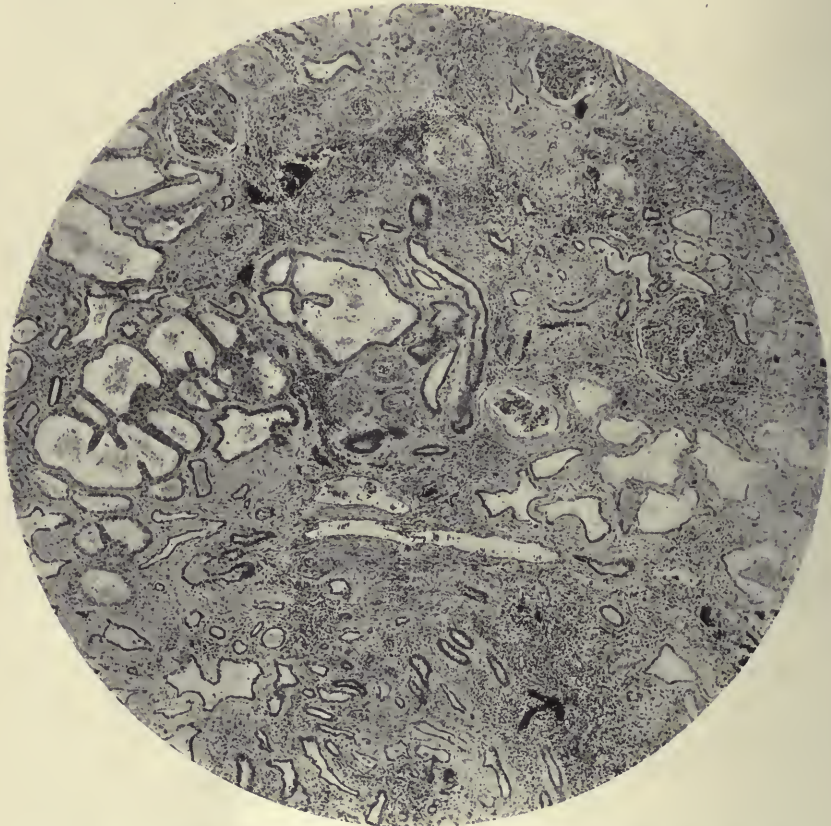


FIG. 3.—Microphotograph of section of kidney (Case 2) showing active interstitial nephritis, etc. ( $\times 50$ ).

*Histology of kidneys (vide Fig. 3).*—The chief change is in the interstitial tissue, which is much increased in amount. The new-formed tissue is highly cellular, and large accumulations of small round cells are scattered throughout the section. The vessels are moderately thickened, though the vascular changes are not extreme. The glomeruli are much altered and vary in size and shape. A few are completely sclerosed, and may show fibrotic changes with adhesions of the tuft to the capsule. Some show a little hyaline change. The

condition of the tubules appears to be secondary to the interstitial change. They are irregularly dilated, some are almost cystic, but the epithelium is healthy except for some flattening due to pressure. A few of the convoluted tubules contain cell *débris*, and in some of the collecting tubules there are masses of red blood-cells, but in the main there appear to be no active parenchymatous changes.

(For the above description we are indebted to Dr. E. H. Kettle, Assistant Pathologist, St. Mary's Hospital.)

CASE 4 (5).—(Symptoms congenital; marked cardio-vascular changes; death at  $6\frac{1}{2}$  years from broncho-pneumonia.)

*Heart*.—Cavity of left ventricle enlarged; wall markedly thickened ( $\frac{1}{4}$ – $\frac{3}{8}$  in.). Microscopically myocardium showed some excess of fibrous tissue.

*Kidneys*.—In appearance similar to those in Case 2; weight of both together just under 1 oz. Microscopically the changes in the parenchyma, glomeruli and arteries were identical with those in Case 2; the interstitial changes appeared of a slightly earlier stage than in Case 2, but were otherwise quite similar.

CASES 7 and 8 (4). The histology of the kidneys in one case, D—, was very similar to Case 2; in the other, W—, they were also very similar but rather less marked.

#### ÆTIOLOGY OF GROUP 1.

Of the eight cases recorded, five were males and three females. In five the symptoms were present from birth, and in three they were said to develop during early childhood. In this connection it is interesting to recall that Dr. J. E. H. Sawyer found that the sex-incidence in the granular kidney of childhood was in the proportion of two males to three females. Out of his forty-six cases three were said to have had symptoms since birth (6).

The type of organic renal disease causing this group of cases of infantilism is, it seems clearly established from the evidence we have procured, that of chronic interstitial nephritis, the kidneys in all the cases that have been examined pathologically being very closely similar. That there should be no differences in the renal lesions in the congenital and post-natal cases presents no particular difficulty to our minds; we do not know the cause of the nephritis, and can well suppose that in one type it is the result of some toxæmia acting during intra-uterine life, and in the other the result of a toxæmia acting at a later period of life. But that there should be no pathological differences in the renal conditions whether the hyper-



trophy of the heart be marked or so slight as to be barely certain even after death, is, we think, not a little surprising. Yet a study of Cases 2 and 4, which are very strictly comparable in every particular except the condition of the heart, proves that such a difference does not necessarily denote a different form, or severer degree, of renal inflammation. In Case 4 the interstitial nephritis was the more marked of the two and the child actually died of uræmic convulsions, and yet the hypertrophy of the heart was infinitesimal. The condition of the general nutrition of the children does not appear to us to account for this difference, and we confess that we have no explanation to submit.

It has been suggested in connection with the cases showing no cardio-vascular changes (Cases 1 and 3) that the renal condition would be more accurately described as "fibrosis" than as interstitial nephritis. By "renal fibrosis," considered as a pathological condition, we suppose would here be meant such a lesion as was the result of a nephritis the activity of which had entirely died down. If this be intended the histology of Case 2, a case clinically almost identical with Case 1, contradicts such a view; for here, as in the others, the chronic interstitial nephritis is found to be in an active state (Fig. 3). We do not think, therefore, that there is any evidence to show that any of these cases of infantilism would be better regarded as due to "renal fibrosis" and would emphasise the fact that they are cases of chronic interstitial nephritis.

Such nephritis is in children commonly regarded as being most frequently due to inherited syphilis. In the cases here brought forward there is no evidence of the presence of this disease; in many, indeed, such a possibility can be entirely excluded. To us it seems impossible that inherited syphilis should produce such a marked disease of the kidneys without showing signs in the other organs, at least when examined post mortem. Thus out of the eight cases, three that were not examined pathologically gave a negative Wassermann reaction, while in two others at least (probably four) there were no signs of syphilis post mortem. On these grounds, therefore, we can reasonably hold that renal infantilism with chronic interstitial nephritis is not necessarily due to inherited syphilis.

Lastly, as regards the cause of the retarded development in these cases, it has been suggested that this is to be explained by the diminution or absence of an internal renal secretion. While this may be so it seems unnecessary to us to invoke such a theory, and we would be content to regard the stunting of the growth as due to excessive drainage from the persistent polyuria and albuminuria.

GROUP 2: RENAL INFANTILISM WITHOUT ORGANIC RENAL DISEASE.  
(DIABETES INSIPIDUS).

In this type of renal infantilism the interference in the physical and mental growth appears of less severity than in the group associated with chronic interstitial nephritis, and the association between infantilism and diabetes insipidus has received very little attention.

Diabetes insipidus is an uncommon condition, particularly in children. Fitcher (8), reporting a series of nine cases, notes only one in a young subject, a girl of thirteen years.

The following case, which has been under the occasional observation of Dr. G. A. Sutherland at Paddington Green Children's Hospital during the past ten years, and which is here reported by his kind permission, shows some interesting points in connection with diabetes insipidus, the congenital onset of the symptoms, the occurrence of several cases in two generations.

CASE 1.—Female, aged 16 years.

*Past history* (obtained partly from step-mother, who has had charge of patient since her third year).—Abnormal thirst ever since birth. Size at birth not known; certainly small for her age at three years, but could walk and run well then. Was very backward at school; never did well at her lessons.

At six years (1902) was admitted to Paddington Green Children's Hospital under Dr. Sutherland for thirst and wasting. Was noted to be very undersized as well as very thin. She seemed to have an unlimited capacity for taking fluid, though was not distressed if it were withheld. The amount of urine passed varied closely with the amount of fluid taken; on 80 oz. in a day she passed 77 oz., on 46 oz. she passed 37 oz., etc. The urine was of a very light colour, specific gravity about 1004, and always free of albumin and sugar. Under treatment she got a little fatter. She was stated to be bright and happy in the ward.

At ten years of age she was readmitted for the same complaints, and showed no change from the condition reported above.

*Family history*.—Mother is stated to have had "drinking diabetes" all her life; died at forty-five; had thirteen children, of whom only five lived, and several miscarriages. Two of patient's brothers have had "drinking diabetes" all their lives; one, now aged twenty-seven, is only 5 ft. high, is married, and has one child; the other, aged twenty-three, is tall. Another brother, unaffected, died of pulmonary tuberculosis.

*Present state*.—Patient was traced and examined. Is now (1912)

sixteen years old, and suffers from thirst "just the same as before." She will drink a couple of pints during most nights, and will easily drink a quart in a few moments. She will still drink dirty water as she used to do when a child. Has had no incontinence for past three years. She is said to have grown rather more rapidly recently, and and is now 4 ft. 11 in. high. She still looks very childish and is dull and listless, although answering questions correctly; memory appears good; step-mother says she is like a child of ten mentally; she is said to be very stupid at work. Circumference of head  $20\frac{1}{4}$  in. Breasts are rather small for her age; axillary and pubic hair is present, but menstruation has not yet started.

Heart appears normal, but radial arteries are distinctly thickened; blood-pressure 108 mm. Hg. Lungs normal. Thyroid normal in size. No signs of organic nervous disease.

Urine said to be much increased in amount; sp. gr. 1001; no albumin, sugar or casts. Wassermann reaction, negative.

The next case, one recently reported by Dr. F. Parkes Weber, shows many points of similarity with the above, but no symptoms were noticed until the third year of life.

CASE 2 (Weber [10]).—Boy, aged 10 years. Polyuria and abnormal thirst since third year. Incontinence to seventh year. Eldest of family of eight; others unaffected; one stillbirth immediately following patient.

*Present state.*—Small for age; height 3 ft.  $9\frac{1}{2}$  in. (normal, 4 ft.  $3\frac{3}{4}$  in.). Weight, two thirds of normal. Thyroid small. Cardio-vascular system normal. Skiagram of skull shows sella turcica of normal, or possibly increased, dimensions. Urine: passes 4000 c.c. in twenty-four hours; sp. gr. 1001–4; no albumin or casts. Wassermann reaction positive. No improvement under treatment with thyroid, mercury, or salt-free diet.

The next case illustrates the connection between diabetes insipidus and hydrocephalus, examples of which are well known. The growth of the patient seems to have been much interfered with, which perhaps warrants its mention here. Such a complicated case illustrates what we should imagine to be the fact that renal infantilism with diabetes insipidus does not form so clear an entity as the type with chronic interstitial nephritis. Evidently some of the cases might be classed under the disease originating the symptoms (syphilis, pituitary lesions, gross organic nervous lesions) rather than as renal. Possibly inherited syphilis would account for the symptoms in this case.

CASE 3 [Cherry (7)]. Female, aged  $2\frac{1}{2}$  years. At the age of two child suffered from diarrhoea, vomiting and intense thirst. The



former symptoms lasted one week only, but the thirst has persisted. She will drink one and a half gallons daily. Loss of weight was noted. Three months later child fell on to back of head, after which enlargement of the head and exophthalmos developed. One month later deafness supervened. The abdomen became much enlarged and the liver hypertrophied. Weight of patient at  $2\frac{1}{2}$  years, 22 lb. (normal 33 lb.)

The only reference to diabetes insipidus as a cause of infantilism which we can trace in the literature of the subject, with the exception of that by Dr. F. Parkes Weber already referred to (10), is an article by Pechkranc published in 1911 in Warsaw, entitled "Diabetes Insipidus; also Imperfect Development of the Entire Body and of the Genitals" (9). We much regret that we have not been able to procure this at the time of writing.

#### ÆTIOLOGY AND SYMPTOMS OF GROUP 2.

We do not propose to enter into the question of the ætiology of diabetes insipidus. The disease is well known to be connected in many cases with syphilis, acquired or inherited, with pituitary and other gross lesions of the nervous system, while some cases appear to be entirely "functional" in origin. We should suppose that diabetes insipidus, arising from any cause, if it developed early enough and was sufficiently severe and protracted, could retard the physical and mental development of the patient.

The infantilism with diabetes insipidus is not of so severe a grade as that found associated with chronic interstitial nephritis, the stunting of the growth is not so obvious, nor is the dried, wrinkled appearance so marked. While this difference might be explained on the theory of an internal renal secretion, it would seem to us better regarded as the result of the difference in the urinary drainage going on persistently. In both groups there is persistent polyuria, but in one there is also persistent albuminuria, which is absent in the other; not unnaturally the defective growth is more marked in the type with albuminuria.

The other symptoms, the changes in the urine and the peculiar family histories, are proper to diabetes insipidus, and require no special mention here.

#### CONCLUSIONS.

When further cases have been investigated they may show variations from the types we have here sketched; particularly is this

to be expected in connection with the occurrence of syphilitic cases or examples of cystic disease of the kidneys as causes of renal infantilism with organic renal disease. From the cases we have studied, however, we may submit tentatively the following conclusions:

(1) A class of symptomatic infantilism secondary to a perversion of renal functions may be recognised ("renal infantilism").

(2) It may occur with organic renal disease; in the cases hitherto reported this type has been due to non-syphilitic chronic interstitial nephritis, whether cardio-vascular changes be present or absent. Here the infantilism is likely to be of a severe grade, and death tends to occur during childhood or early adolescence from uræmia or pneumonia.

(3) It may also occur apart from organic renal disease (diabetes insipidus). This type may be due to inherited syphilis, organic nervous lesions, and the other recognised causes of diabetes insipidus. The infantilism is not of a severe grade, and life may be prolonged.

(4) In either type the symptoms, polydipsia, polyuria and retarded development may be present from birth or may develop during early childhood.

(5) Hitherto no case of either type has been materially affected by treatment.

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##### *Group 2.*

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HEREDITARY ABSENCE OF THE PATELLÆ AND  
DEFORMITY OF THE NAILS.

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CASES of rudimentary development or absence of the patellæ may be divided into two groups, those which are "accidental" or "sporadic," *i. e.* a single case occurring in one member of a family, and those which are hereditary. The former are not uncommon,



FIG. 1.—Mrs. B.—. Deformity of nails is well shown.

but instances of the latter are rare, and certain features of the two families described below have not, to my knowledge, been recorded before.

No relation can be traced between the two families, one living in Scotland, and the other in London, so that they may be set down as separate examples of the condition indicated by the title of this paper.

The first has been under my personal observation, and several members were shown at the Royal Society of Medicine (Section for the Study of Disease in Children) in November, 1911.

Father, normal in every way.

Mother, aged 32 years. Patellæ absent; nails deformed (Fig. 1).





FIG. 2.—Mary B—, aged 10 years. Ridges most marked on the nails of the right little finger and left ring finger.



FIG. 3.—Hands and knees of Mary B—. Note large size of condyles of right femur.

Mary, aged 10 years. Patellæ absent; nails deformed; congenital talipes on left side; this child is unable to extend either forearm fully, apparently owing to some contraction of the soft tissues round the elbow-joints. Both radii are also dislocated, a condition which has been present since birth (Figs. 2 and 3).

Twins, premature; died soon after birth. No history of either sex or presence of deformities.

Boy, died aged 2 years; normal in every way.

Girl, died aged 2 months. Patellæ absent; cleft palate. Her mother does not recollect if the nails were deformed.

Violet, aged  $4\frac{1}{2}$  years. Right patella small, left rudimentary; nails deformed. This child also cannot fully extend the left forearm, but the position of the radius on each side is normal.

Kathleen, aged 3 years. Patellæ absent, nails deformed; congenital dislocation of right hip.

Girl, aged 2 months. Normal in every way.

In spite of the absence of the patellæ, the children walk well with the exception of the eldest girl, who finds some difficulty in negotiating stairs.

The nails are small, flattened, and ridged longitudinally. The nail substance is brittle and the pulp of the finger extends beyond the free border of the nail. The condition is present in both finger- and toe-nails, and varies considerably, some nails nearly approaching the normal, while others are markedly deformed.

The deformities cannot be traced further back than the mother.

The second family was seen by Dr. John Thomson, of Edinburgh, and I am much indebted to him for his courtesy in sending me a full account of his observations with permission to publish it. I have given it verbatim:

*"Family history of the Lambie family.*—The father's parents and other relatives are all normal as regards patellæ and nails. Neither the mother's parents nor any of her three sisters and four brothers, or their children, have been affected like herself.

*"Present state.*—On November the 11th, 1911, through the kindness of Dr. John A. Campbell, of Whitburn, whose patients they are, I had an opportunity of examining both parents and the eight younger children. I found as follows:

"Father, aged 33 years, is a surface man on the railway, and is a strong, healthy, intelligent man, and normal in every way.

"Mother, aged 32 years, is also healthy and vigorous. The patellæ are both absent and her finger- and toe-nails are defective. Her right elbow, although quite strong, shows a slight defect. She is

unable to extend or to supinate it as fully as the left. There is no history of any accident to the arm.

"(1) George, aged 14 years, is said to be normal in every way.

"(2) Jemima, aged 13 years, has absence of patellæ and deformity of nails.

"(3) Thomas, aged 11 years, has absence of patellæ and deformity of nails. As an infant he suffered from being unable to swallow fluids properly and this has continued to some extent all his life.



FIG. 4.—John L—, aged 6 years. Showing prominence of condyles of femora.

He rarely has it now, and his mother thinks he can stop it when he likes.

"(4) Alec, aged 10 years, is normal, except that he has had congenital inguinal hernia.

"(5) Samuel, aged 8 years, has patellæ absent and nails deformed.

"Before the birth of the next child the mother had a miscarriage at the fourth month.

"(6) John, aged 6 years; When the child was first examined the patellæ were thought to be absent. On more careful palpation, however, a rudimentary patella, a little larger than a sixpence, could



be felt in the normal position on each side; the nails were deformed. On the right side there is ptosis of the upper lid with extreme divergence outwards of the eye from paralysis of the internal rectus. The pupil is of medium size, like that of the left eye, but does not react to light. The optic disc is normal. The left eye is normal as to disc, pupil, and movements, but shows some degree of hypermetropic astigmatism. There is coarse horizontal nystagmus of both eyes. Dr. A. H. H. Sinclair, who examined the eyes, regarded the condition of the right as probably due to a congenital defect of the nucleus of the third nerve. It had been noticed a few weeks after birth. This boy has had off and on since infancy the same sort of difficulty in swallow fluids as his brother Thomas (Figs. 4 and 5).



FIG. 5.—Hands of John L.— Ridging of nails very marked.

“(7) James, aged 4 years, is normal.

“(8) Peggie, aged 2 years, is normal as to patellæ and nails, but has rickets.

“(9) Elizabeth, aged 1 year, has no patellæ and her nails are deformed.

“(10) Child, died aged 2 days; sex not stated; normal.

“In all the cases in which the patellæ are normal the nails are quite healthy in appearance, while in the others the nails always show severe deformity, although never entirely absent. The affected nails are very short (from a quarter to three quarters the normal length). In most of them the finger pulp overlaps the end of the nail, so that there is no free edge. The terminal phalanges of those fingers

which have defective nails seem in some instances a little too small (Fig. 5).

"In the case of the sixth child, John, who was repeatedly examined, there were, as already mentioned, small discs of cartilage representing the patellæ. In the other cases, which were only seen on one occasion and had to be somewhat hurriedly examined, nothing of this sort was felt. Under the circumstances, however, it seems very probable that similar rudimentary patellæ may have been overlooked in some at least of the cases.

"The condyles of the femora are very prominent, especially the external in some cases. The want of patellæ seems to have no weakening effect on the lower limbs, as those children who have it walk and run just as well as the others."

The similarity between the two families is so striking in regard to the dual defects of patellæ and nails, and their absolute coincidence in certain members, the maternal inheritance and preponderance of affected females that the condition appears to be distinct both from ordinary cases and hereditary examples of absent patellæ.

Of the latter I have found eight recorded instances and one account of the occurrence of the abnormality in several members of the same generation, and give brief notes of them.

1. Little (1) (own case). Two sisters; rudimentary patellæ appeared aged  $3\frac{1}{2}$  years. Father and paternal uncle said to have had the knees similarly affected.

2. Little (Adams' case). Boy; condition hereditary on father's side.

3. Little (Sedgwick's cases). He (William Sedgwick) had had under his care a family of four generations of which eighteen persons had no patellæ and no thumb-nails; the majority were females.

4. Thorndyke (2). Case recorded in 'London Medical Gazette,' January, 1833. Adult male attending St. George's Hospital, London, whose father and grandfather had no patellæ.

5. Joachimstal (3). Son and father.

6. Joachimstal (Wirth's case). Man, aged 35 years, all the male members of whose family had no patellæ.

7. Bilhaut (4). Child; paternal inheritance.

8. Heine (5). Up to now I have been unable to verify this record and obtain particulars.

9. Pearson (6) records two sisters and their cousins. No mention is made of the parents, but this is the only instance I have found in which more than one case has occurred in a family without the condition being hereditary, and so deem it worth grouping with the other cases.

It is well known that congenital abnormalities are frequently multiple, and a glance through the accounts of both hereditary and "sporadic" cases of absent patellæ shows that this deformity is accompanied by a large variety of other defects, of which full details can be found in papers by Little (1), Thorndyke (2), and Fargeas (6), but in only one of the familial cases (Sedgwick's) does a persistent accompanying abnormality appear, and this is the only case in which mention is made of the nails. Unfortunately, full details are not given, but the description certainly implies that all those individuals lacking patellæ also lacked thumb-nails, and it is definitely stated that the majority of his cases were females. Thus it seems possible to include this family in the series of cases of "hereditary absence of the patellæ and deformity of the nails," which appear to form a group totally distinct from the fortuitous occurrence of a single case of absence of the patellæ in one member of a family, and which is characterised by coincident maldevelopment of nails and patellæ, preponderance amongst females and possibly by maternal inheritance, and differing in these respects from all except one of the previously recorded cases of hereditary absence of the patellæ.

In conclusion, I must express my gratitude to Dr. Thomson for permission to make use of his observations and the photographs of the family under his care.

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## DESTRUCTION OF THE UVULA IN VINCENT'S ANGINA.\*

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A GIRL, aged 5 years and 10 months, was admitted to the Grove Hospital on January the 31st, 1912, certified to be suffering from diphtheria, on the seventh day of disease. Apart from an attack of

\* The patient was shown at the Section for the Study of Disease in Children of the Royal Society of Medicine on April the 26th, 1912.

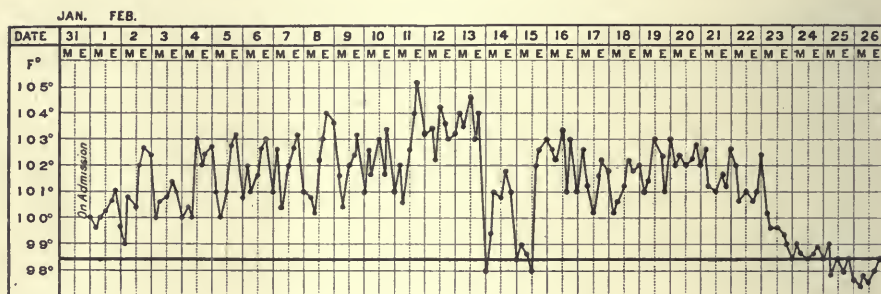


## 312 DESTRUCTION OF UVULA IN VINCENT'S ANGINA.

whooping-cough about two years previously her health had always been good. There was no family or personal history of syphilis.

*Condition on admission.*—Well-developed child, showing slight degree of congenital ptosis of left upper lid. Deposit on left tonsil: 8000 units of antitoxin given. February the 1st: Ulceration of left tonsil and left side of uvula, numerous cocci and a few organisms resembling diphtheria bacilli in culture. February the 4th: Ulceration of tonsil and uvula more marked. Vincent's organisms in smear.

In spite of various local measures successively adopted—viz. syringing with solution of potassium chlorate and lavender, application of methylene-blue powder, and painting with tincture of iodine—the ulceration advanced, and was accompanied by much fœtor, dysphagia, prostration and insomnia. From February the 2nd to



February the 14th the temperature was always above 102° F., and on the 11th was 105.2° F. (see chart). On the 14th the uvula was entirely destroyed. The larynx was not affected. On the 23rd local and general improvement occurred and cicatrisation rapidly took place. Vincent's organisms were still present in the throat smears on the 22nd, but none were found on March the 2nd. The voice long remained indistinct and nasal, but gradually became clearer. From March the 1st to the 9th there was some regurgitation, but none was noticed subsequently. Wassermann's reaction, performed by Dr. Cartwright Wood on March the 16th, was positive, but became negative on March the 30th without anti-syphilitic treatment. Beyond a trace of albumin in the urine from February the 11th to the 19th no complication occurred. The knee- and ankle-jerks remained active, and there was no sign of diphtheritic paralysis.

The child was discharged in good health on April the 5th, and was shown before the Section for the Study of Disease in Children of the Royal Society of Medicine on April the 26th, when loss of

the uvula and anterior pillars and portion of the soft palate and tonsils could be seen. The free margin of the soft palate presented a depressed pale area of scar-tissue. The voice was still slightly nasal, but there had been no further difficulty in swallowing.

The features of interest in the case are, first, the exceptional severity of the attack, and secondly, the behaviour of Wassermann's reaction. Vincent's angina is usually a mild affection, and readily yields to local treatment, such as painting with tincture of iodine or applications of methylene-blue powder. Local treatment, however, in the present case proved unavailing, and improvement first seemed to begin after a good night's rest had been obtained by a dose of trional.

The uvula is frequently involved in Vincent's angina. Thus of the thirty-two cases recently reported by myself in this JOURNAL, it was affected in twenty, but the damage was never considerable, and complete regeneration of tissue always occurred. I can find only five other cases in literature in which the uvula was completely destroyed (Auché, Baron, Bruce, Niedner, Achard and Flandin). To these must be added a fatal case in a boy, aged 10½ years, related by Dr. Goffe at the discussion following the exhibition of this child. Before death the whole of the uvula and most of the soft palate had sloughed away, and at the necropsy the posterior pharyngeal walls, part of the tonsils, pillars of the fauces and larynx were found to be involved.

In Auché and Niedner's cases, as in my own, diphtheria bacilli were present, but their pathogenicity was not tested. I may mention, however, that diphtheria bacilli have been found in gangrenous conditions in the mouth and throat, and in such cases are usually of diminished virulence and incapable of producing the characteristic phenomena of true diphtheria (Freymuth and Petruschky, Passini and Leiner, Sailer, Walsh). In the present case the aggravation of the local and general condition in spite of antitoxin renders it improbable that the diphtheria bacilli present played any considerable part in the morbid process. It is more likely that the numerous cocci, the exact nature of which was not determined, were of more importance, but the way was paved for these by Vincent's organisms.

The term "Vincent's angina" has been given to the present case on account of the predominance of the fusiform spirilla in the throat smears, but it may also be called a case of primary gangrenous angina. The great destruction of tissue, the penetrating fœtor, which was much more offensive than that usually observed in

Vincent's angina, the resistance to local treatment, and the grave disturbance of the general condition, certainly justify such a description. At one time death, which is the usual issue in gangrenous angina, seemed probable, either from septic absorption or from involvement of the neck vessels with sudden and fatal hæmorrhage.

On the other hand, though an attempt is usually made to distinguish Vincent's angina from gangrene of the throat, there is little doubt, in my opinion, that the two conditions are closely allied. Roque, indeed, regards Vincent's angina as a variety of gangrene of the pharynx. In gangrenous angina, as Buday and Verprémi have shown, the fusiform bacilli and spirilla of Vincent predominate, while the numerous other organisms with which they may be associated play only a subordinate part.

The presence of a positive Wassermann's reaction in Vincent's angina, apart from concomitant syphilis, has been recorded by other observers (Gerber, Much, Saverio). In Much's case, examination of the blood during the febrile period gave a strongly positive reaction, but a fortnight later, when the angina was cured, the reaction was negative. On the other hand the reaction is not invariably positive in Vincent's angina uncomplicated by syphilis, as three such cases reported by Sobernheim and two by Saverio all gave a negative reaction.

In view of the successful results obtained with salvarsan in Vincent's angina by direct application (Sourdél, Roger, Achard and Flandin), or by intra-venous or intra-muscular injection (Gerber, Rumpel), it is possible that salvarsan might have been of benefit in this case. Gerber, indeed, regards it as hardly less specific for Vincent's angina than for syphilis. In most cases, however, such treatment is unnecessary, the ordinary local measures being quite sufficient.

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## SACRAL TERATOMA REMOVED FROM A FEMALE INFANT TWO DAYS OLD.\*

By H. A. LEDIARD, F.R.C.S.,

*Surgeon to the Cumberland Infirmary, Carlisle.*

At the date of operation (December the 16th, 1903) the infant was two days old and  $4\frac{1}{2}$  lb. in weight (*vide* Figure). It was small and poorly nourished, but mature.

The tumour had a blue-red colour, a hard but well-defined pedicle, and the contents of the skin sac were felt to be fluid as well as solid, the latter being irregular, knotty, but not firm. The pedicle at one edge ran close up to the anus, and the other margin extended over the coccyx and reached the lower half of the sacrum.

Distension of the tumour was not noted when the infant cried. The anus was not concerned.

The pedicle, at least two inches wide, was clamped with Doyen's intestinal anastomosis forceps, and the tumour cut away.

The hard cartilaginous part of the interior of the pedicle was removed with scissors.

The skin was stitched over the stump before removing the clamps, but after removal a few more stitches were inserted through the stump and skin in order to arrest oozing. Not more than 1 oz. of blood was lost. The infant recovered.

When nine months old a slight watery fluid leaked from a minute perforation in the scar.

At about three years of age the child was of average weight and growth, but a slight leak from the scar remained.

When eight years old the child was examined, and no trace of mental or physical deficiency was observed.

The dropping of serum from the pin-hole aperture, which had lasted for seven years, had ceased for twelve months.

\* A communication made to the Obstetrical and Gynæcological Section of the Royal Society of Medicine on March the 7th, 1912.

This dropping had been more noticeable when the child walked about, but the amount was always slight and sometimes ceased entirely for days together.

The site occupied by the teratoma became less elevated and lumpy and the irregularity of the surface near the buttocks was smoothed down.

The mother had had two children since the birth of the teratomatous infant, neither exhibiting any abnormality.

*Structure.*—Sections showed the various tissue elements of which the growth was composed, especially cartilage and tubes lined by epithelium. Some of the cyst spaces were lined with columnar epithelium.



Squamous epithelium was seen covering the growth, but at one part the epithelium had become modified into columnar type.

Some spaces were lined by high columnar epithelium, and there were areas of gland structure made up of small acini with cubical epithelium.

A large round space was lined by squamous epithelium and filled with desquamated epithelial cells (evaginated) "atheromatous cyst."

Another part showed bone, and at the junction of cartilage the process of ossification of cartilage matrix.

The sacral region is by no means an infrequent site for the attachment of a fairly developed or a rudimentary foetus.\*

According to Coats† the most probable origin is a partial abcaudal fission with inclusion of one of the halves.

The tumour is frequently a large one and usually contains cysts,

\* Edmund Owen, 'Trans. Path. Soc.,' 1888, xxxix, p. 425.

† 'Manual of Pathology,' 3rd edition, 1895.

the walls of which recall the structure of the skin, sometimes with hairs and of mucous membranes, and there may be pieces of bone and cartilage.

The child in almost all cases belongs to the female sex.

## A CASE OF ULCERATIVE ENDOCARDITIS PRODUCED BY THE PNEUMOCOCCUS IN A CHILD AGED THREE YEARS.\*

By H. R. DEAN, M.D., M.R.C.P.,

*Assistant Bacteriologist, Lister Institute, and  
Honorary Pathologist to the Victoria Hospital for Children.*

THE patient was a girl, aged 3 years. She was said to have been always a weakly child. The illness began with vomiting on January the 14th. On the next day she was drowsy, but screamed if roused. On January the 16th she was admitted to the Victoria Hospital for Children under the care of Dr. A. C. D. Firth. The typical signs of meningitis were present. The patient died on January the 17th.

*Post-mortem examination.*—The body was poorly nourished. A well-marked purpuric eruption was present on the skin of the thighs and shins. The individual petechiæ were small, round, well defined, and of a purple colour. The pericardial sac contained a little clear fluid. The heart was large. Both ventricles were dilated and hypertrophied. Both auricles contained laminated clot. The clot contained in the right auricular appendix was adherent to the wall of the chamber. The right ventricle contained a large laminated clot which was adherent to the anterior wall of the ventricle immediately below the tricuspid valve. On removal of the clot an area of superficial ulceration was found. Numerous vegetations were present in the space between the infundibular segment of the tricuspid valve and the wall of the ventricle. There were no vegetations on the internal surface of the segments of the tricuspid valve. The mitral valve was thickened. One large and several smaller patches of granulations were found on the anterior segment of the mitral valve. The left ventricle contained a laminated clot which was adherent to the mitral valve. The aortic and pulmonary valves were normal. The lungs were extremely congested and œdematous, but there was

\* A paper read before the Pathological Section of the Royal Society of Medicine on March the 19th, 1912.



no sign of consolidation. The peritoneum was reddened and injected throughout. The liver was large, and on section presented a typical fatty nutmeg appearance. The spleen was large and firm. The kidneys were of normal size, of a tough consistence and a deep red colour. Neither liver, spleen, nor kidneys contained infarcts. The vessels of the stomach and small intestine were distended. On removing the skull-cap the surface of both hemispheres was found to be covered with a thick layer of greenish pus. Thick pus coated the base of the brain, involving the origins of all the cranial nerves. The cerebral vessels were examined for embolism without success. The substance of the brain was extremely soft, but there were no localised collections of pus. Sections of granulations on the tricuspid valve showed a few clumps of pneumococci. Sections of the liver showed a condition of extreme passive congestion with well-marked fatty change.

*Bacteriological examination.*—A specimen of the cerebro-spinal fluid was removed during the life of the patient. It contained large numbers of pus-cells and pneumococci. At the post-mortem examination specimens of the heart-blood were taken before the heart was opened. Pneumococci were present in the films made from the heart-blood, and the pneumococcus was obtained in pure culture. Numerous pneumococci were found in films made from the pus obtained from the surface of the brain, and a pure culture of the pneumococcus was obtained from this source. The cultures of the pneumococcus were of typical appearance and killed inoculated mice in twenty-four hours.

The interesting features of the case are the age of the patient and the distribution of the lesions on the right side of the heart. The lesions were undoubtedly due to the pneumococcus, and at the post-mortem examination the lungs showed no evidence of broncho-pneumonia. Judging by the state of the ventricular wall and the appearance of the liver, it seems likely that valvular disease had been present for some considerable time. Indeed, chronic valvular disease may well have been present before the onset of the final infection. In any case it seems quite certain that the suppurative meningitis was secondary to the heart condition.

I am indebted to Dr. Firth for his kindness in allowing me to make use of the clinical notes of the case.

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## The Royal Society of Medicine.

### EPIDEMIOLOGICAL SECTION.

*February the 23rd, 1912.*

**Diarrhœa in 1911.**—Dr. DUDFIELD said that there were 6172 deaths from diarrhœa during 1911, an excess of 50·89 per cent. of the average for 1901–1910, a greater excess having been observed in 1906. The all-age total number of deaths during 1911 was 1·36 per 1000, as compared with an annual average of ·89, and the rate under two years was 32·92 per 1000, as compared with a decennial mean of 20·56. From diarrhœa and enteritis the death-rate under two years was 92·2 per 1000, contrasting with a decennial mean of 54·4. Since 1908 every known case of diarrhœa in Paddington has been visited by the women inspectors. Information was obtained by permission from the staff of St. Mary's and Paddington Green Children's Hospitals to examine all out-patient letters, by supplying the Poor Law medical officers with post-cards, and by the infant consultations. A diarrhœa register started in 1908 recorded 301 cases between July and October, the maximum number of weekly entries being 41 for the week ending August 15th: 248 occurred in children under two, of which seventeen terminated fatally.

In 1909, 205 entries were made, 163 of these being children under two years, and of the latter 6 died.

In 1910 there were 111 registrations, of which 100 were children. In 1912 the register was open for twenty-four weeks with an entry of 456, of which 387 were children under two.

The period of epidemic prevalence lasted for 11 weeks, and that of acute epidemicity for two months. There were more cases among males—100 for every 82 females, but there were more deaths among females—138 for every 100 males. There was no marked difference between the age-incidence in the two sexes.

The fatality-rate was 14·72 per cent of the known cases (13·14 for males, 16·66 for females). As regards the methods of feeding no deaths occurred among the 59 breast-fed; of the 122 artificially fed 84·6 per cent. succumbed, while of those who were brought up on a mixed diet 9·6 per cent. died.

The attack rates were for the breast-fed 27·6, for the artificially fed 81·8, and among those on a mixed diet, 36·8. In only 52 out of some 400 houses was any provision made for keeping the food out of the living-rooms; only 14 used long-tubed bottles. Cases living on the first or higher floors of houses showed a higher recovery-rate than those living on the ground floor or basement. Relapses were relatively more frequent in basement and first-floor houses.

The number of occupants per house was found to have but little influence.

Multiple attacks independent of relapses were known in 84 houses—just over 20 per cent. of the whole number—and in 41 families, or 9·8 per cent. of the total.

As regards causation, there is a high positive correlation between earth temperature and diarrhœal mortality. The co-efficient for mortality and rainfall is negative.

Fly counts were taken at eight stations and were changed thrice weekly. The maximum of the fly curve was fourteen days later than the maximum earth temperature—an interval closely corresponding to the time required for hatching out the *Musca domestica*. The female inspectors found that the greater the number of flies, the greater the number of cases and deaths.

The fly is the link between the earth temperature and diarrhoea prevalence.

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## Société de Pédiatrie, Paris.

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March the 12th, 1912. (*Bulletin* No. 3.)

**Congenital Hemiatrophy of the Face and Tongue on the Left Side; Absence of the Sterno-mastoid Muscle and Cervical Hernia of the Lung.**—M. VARIOT showed a boy, aged 5½ years, about three and a half feet high, and about three stone in weight. The head was slightly inclined to the right, without muscular rigidity. Skull symmetrical, intelligence normal. The left side of the face was markedly less developed than the right, the left ramus of the lower jaw was less thick. There was a slight asymmetry of the buccal slit, but when the child spoke, and especially when he opened his mouth, the right labial commissure was markedly drawn down as in the congenital labial hemispasm described by M. Bonniot. When the tongue was protruded the tip was directed downwards and towards the middle line, the whole organ inclining to the right. Speech was quite distinct.

**Alteration caused by Diet in the Abdominal Girth of Infants.**—MM. VARIOT and MORANCÉ.—Abdominal enlargement was met with in atrophic children who are behind normal children of their age with regard to height and especially to weight. This dissociation of weight and height increase showed that the children are underfed and not merely suffering from digestive disturbances. These underfed infants with large belly had the intestines, and more especially the colon, distended with air, perceptible to percussion and radioscopy. These atrophic children should be given a large amount of food for several reasons; they required it for growth, and they utilised it as shown by analysis of fæces. The amount should be calculated by age and not by weight. Under large quantities of milk the abdominal girth diminished 5 or 6 cm. Continuance of aërophagy might prevent complete return to normal dimensions, but the rapid alteration showed that the condition was not due to increase in the length of the intestinal tube as described by M. Marfan.

**Chronic Intussusception in a Child, aged 5 years.**—MM. TRIBOULET and SAVARIAUD reported the case of a child seized with intermittent attacks of pain in the epigastrium and right hypochondrium, where there was a swelling exhibiting peristaltic movements. There were no serious symptoms and the stools were normal. When operated on later they found an invagination the size of a hen's egg formed by the last few centimetres of the ileum and kept up by a large mass of tuberculous glands.



**Congenital Torticollis: Subcutaneous Tenotomy.**—MM. JALAGUIER and LAMY showed five children operated on by this method with remarkably good results; their ages were 6, 7, 10, 15 and 21 years.

**A Case of Embolic Gangrene of a Limb following Malignant Diphtheria.**—M. AVIRAGNET reported the case of a boy, aged 13 years, the subject of pharyngeal diphtheria. The false membrane did not completely disappear until more than eight days of serum treatment in large doses. A few days later he was seized with violent abdominal pain, tingling in the legs, especially the right, with cessation of pulsation in the arteries. Death occurred the following day.

M. ARMAND-DELILLE described the results of treatment of surgical tuberculosis by Rollier's method of heliotherapy.

VINCENT DICKINSON

## Abstracts from Current Literature.

### Medicine.

**The immunity of infants to eruptive fevers and certain infectious diseases** (*La Clin. inf.*, 1911, ix, pp. 609 and 641).—G. Variot compares the views expressed by certain authors with his own observations in cases of measles, scarlatina, chickenpox, vaccinia, smallpox, whooping-cough, diphtheria, typhoid and tuberculosis. The infant is extremely vulnerable through the skin (erysipelas, cutaneous affections), through the digestive tract (enteritis, diarrhoea) in hot weather, and through the respiratory passages (broncho-pneumonia) in cold weather. In contrast to this vulnerability is the relative immunity of the infant to eruptive fevers and the infectious diseases above mentioned, and even to a certain extent to tuberculosis. It is evident that if the earliest age were to pay the same tribute to all these affections as children above the age of one year, the infantile mortality would be far greater, seeing that the vital resistance of the infant is less the younger he is. Under these circumstances, although the morbidity is less, the mortality is marked. The relative immunity of the infant cannot be explained; perhaps the special character of the nutritive changes and the rapid growth contribute to give the tissues bactericidal properties against certain morbid germs. It is important, however, that the practitioner should recognise that the infant is more refractory than is generally believed to many infections, and that epidemics of the eruptive fevers do not occur in assemblages of children under one year. When an epidemic of measles occurs in a crèche it is exceptional for it to begin among the nurslings; it is almost always children from one to four years who are first attacked.

VINCENT DICKINSON.

**Von Pirquet's tuberculin reaction in acute infectious diseases in children** (*Jahrb.f. Kinderheilk.*, 1912, LXXV, p. 435).—W. J. Moltschanoff obtained the following results in 159 cases in which he performed the cuti-reaction. In every case of measles (42 cases) the sensitiveness to tuberculin was completely lost during the eruptive stage, but rapidly returned as the

rash faded. In scarlet fever (50 cases) there was complete loss of sensitiveness in 85 per cent. and in 15 per cent. some diminution was noted. The serum disease, when well developed, also tended to suppress the reaction. On the other hand, varicella (3 cases) and diplococcal angina (1 case) had no effect upon it.

J. D. ROLLESTON.

**Pulmonary embolism as a sequel of diphtheria** ('*Lancet*,' 1912, i, p. 866).—**D. Stewart**.—A girl, aged 4 years, a fortnight after admission to hospital with mild diphtheria suddenly became feverish and restless, and developed signs indicating pulmonary trouble. Pneumonia was diagnosed, but the child grew rapidly worse with increased lividity and restlessness and respiratory embarrassment. Death took place within twenty-four hours of the onset of the symptoms. The necropsy showed a large infarct involving the right upper lobe. The right side of the heart was dilated, but there was no gross valvular lesion.

J. D. ROLLESTON.

**Complete heart-block in diphtheria** ('*Heart*,' 1911, ii, p. 77).—**G. B. Fleming** and **A. M. Kennedy**.—A girl, aged 10 years, was admitted to hospital on the fifth day of severe diphtheria and died on the tenth. On admission the pulse was 96, on the sixth day 62, on the seventh 88 in the morning, 40 in the evening, on the eighth 80 to 52, on the ninth 72 to 48, and on the tenth 62 to 40. Two days before death the heart was considerably dilated, and there was very rapid and obvious pulsation in the neck, which tracings showed to be due to auricular contractions. On the day before death palatal palsy occurred. Tracings taken on the three last days of the illness showed that the auricle and ventricle were beating at different rates: the auricular rate was 110 and the ventricular 46. On histological examination numerous inflammatory foci consisting for the most part of lymphocytes were found in the auriculo-ventricular node and bundle. There were no signs of degeneration in the vagi.

J. D. ROLLESTON.

**Diphtheria carriers in a school epidemic** ('*Austral. Med. Journ.*,' 1911, i, p. 233).—**G. Leary** treated two carriers according to Page's method by spraying their throats with a twenty-four hours' broth culture of *Staphylococcus pyogenes aureus*. In the first case the spray was used on two occasions with an interval of two to three days. Several swabs taken sixty hours after this were negative, and further swabs taken from the posterior part of the tonsil five days after spraying showed only one bacillus. The second case showed negative cultures in forty-eight hours and again four days later.

J. D. ROLLESTON.

**Treatment of diphtheria bacillus carriers** ('*New York Med. Journ.*,' 1911, ii, p. 1282).—**H. Page** used on his own son in convalescence from severe diphtheria the method he had recently described of swabbing the throat with a culture of *Staphylococcus pyogenes aureus* (vide BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 33). As on previous occasions the procedure proved quite harmless, but release from quarantine was delayed owing to timidity in applying the treatment, as the throat did not become free from diphtheria bacilli until seven days after the treatment had been begun.

J. D. ROLLESTON.

**The use of bouillon cultures of *Staphylococcus pyogenes aureus* in diphtheria convalescents and bacillus carriers** ('*Med. Record*,'

1912, I, p. 593).—**R. G. Wiener** on December 11, 1911, sprayed the throat with such a culture three times a day in a case in which diphtheria bacilli had persisted three and a half weeks from the onset of the disease. On the 12th the culture was positive and a spray with twice as heavy a culture was used. On the 13th the culture, though positive, contained fewer organisms. A heavy culture was used every three hours this day. On the 14th the culture was negative and staphylococci only were present. On the 18th, four days after the last spray, the culture showed a staphylococcus and a Gram-negative coccus, probably *Micrococcus catarrhalis*; no bacilli. There was no local or constitutional disturbance.

J. D. ROLLESTON.

**Diphtheria as a complication of measles** (*Thèses de Paris*, 1911–12, No. 59).—**V. Lapeyre**.—Among 2023 cases of measles admitted to the Hôpital des Enfants Malades, 49 developed diphtheria, with 25 deaths. The localisation of diphtheria was as follows: Fauces 15 cases, larynx 33 cases, eyes 1 case. The latter was a fatal case in which perforation of the cornea took place (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, v, p. 412, and 1909, vi, p. 512). All the fatal cases were under eight years old. Post-diphtheritic measles is almost entirely a hospital affection, being hardly ever found in private practice. The thesis contains the histories of fifteen cases, all but two of which are original.

J. D. ROLLESTON.

**Nephritis in measles** (*Thèses de Paris*, 1911–12, No. 138).—**A. B. Maisons**.—A boy, aged  $4\frac{1}{2}$  years, who had had no previous illnesses besides varicella a year previously, developed acute nephritis three weeks after an ordinary attack of measles, accompanied by general anasarca, arterial hypertension and headache. Recovery took place within a month. Nephritis in measles is rare. It occurs in convalescence, being due either to chill or error in diet, or to an exceptionally virulent infection or association with other infective agents. Anatomically the glomeruli and convoluted tubules are chiefly involved. The prognosis is good as a rule. The treatment is that of any acute nephritis.

J. D. ROLLESTON.

**Experimental measles in monkeys** (*Journ. Amer. Med. Assoc.*, 1911, II, p. 1833).—**L. Hektoen** and **H. E. Eggers** found that *Macacus rhesus* developed a mild form of measles if injected with the virus of human measles present in the blood after the rash had appeared. Their results thus agreed with those of Anderson and Goldberger (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 35). They also found that in the measles of monkeys, as in human measles, there was a leucopenia of variable degree preceded by leucocytosis. The leucopenia affected chiefly the neutrophiles, the lymphocytes being relatively increased.

J. D. ROLLESTON.

**A neglected symptom in scarlatina** (*La Clin. inf.*, 1912, x, p. 75).—**H. Fromont** draws attention to Filatow's sign, *i. e.* the marked contrast between the pallor of the lips and chin and the intense redness of the cheeks. The peri-buccal pallor is of such intensity that it resembles white paper, the skin being also smoother than normal. The paleness is not, therefore, a negative phenomenon, caused by contrast of tint, but is a real want of coloration in the region affected. This sign enabled the author to diagnose scarlatina on three occasions in the absence of an eruption and on another to differentiate it from a drug eruption. The four cases are reported.

VINCENT DICKINSON.



**The diazo-reaction in scarlet fever and serum sickness** (*Arch. of Ped.*, 1912, xxix, p. 12).—**S. S. Woody** and **J. A. Kolmer** found the diazo-reaction positive in 17·3 per cent. of scarlet fever and 12·9 per cent. of diphtheria during the first week of disease, the time when scarlatiniform rashes are most apt to develop and tend to difficulty in diagnosis. In serum sickness the percentage of positive reactions is much lower. The value of the reaction is, however, very slight owing to the percentage of positive reactions in scarlet fever and diphtheria being comparatively low.

J. D. ROLLESTON.

**Acute suprarenal insufficiency in scarlet fever** (*Bull. et mém. Soc. méd. Hôp. de Paris*, 1912, xxxiii, p. 61).—**Grysez** and **Dupuich** record a case in a soldier, who on the third day of a severe attack of scarlet fever presented the following signs of acute suprarenal insufficiency: marked arterial hypotension, fall of temperature, profuse sweating, meteorism, abdominal pain, headache, somnolence, prostration and asthenia. The diagnosis was confirmed by the prompt effect of ingestion of adrenalin, the blood rising rapidly to normal and recovery finally resulting. Reference is made to a similar case reported by Hutinel in a girl, aged 11 years, who during a severe attack of scarlet fever showed extreme asthenia, low blood-pressure (75 mm.) tachycardia and tendency to syncope. Abdominal pain, nausea and vomiting were also noted. Recovery followed the oral administration of adrenalin, (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1911, viii, p. 329).

J. D. ROLLESTON.

**The heart in scarlet fever** (*Jahrb. f. Kinderheilk.*, 1911, lxxiv, p. 395).—**R. Lederer** and **K. Stolte**.—During an epidemic at Strasburg in 1910 70·5 per cent. of fifty cases showed some affection of the heart, viz. indistinctness and disappearance of the first sound, occurrence of murmurs, accentuation and division of second pulmonary sound, bradycardia, tachycardia, arrhythmia, and occasionally dilatation. Children under three years were very rarely affected. These phenomena regularly coincided with a fall in weight and their disappearance corresponded to a rise in weight. Almost invariably they cleared up during the patient's eight weeks' stay in hospital. Organic valvular disease could be excluded owing to the rapidity with which the phenomena subsided, nor could they be explained by anatomical investigation or chemical analysis of the heart in fatal cases. It was found, however, that the cardiac murmurs could be caused to disappear temporarily by raising the peripheral blood-pressure, *e. g.* by holding up the limbs of the child vertically, by compression of the abdominal aorta, powerful faradisation, or even by fright.

J. D. ROLLESTON.

**Symmetrical gangrene of skin in scarlet fever** (*Jahrb. f. Kinderheilk.*, 1912, lxxv, p. 350).—**L. Silberstein**.—A girl, aged 9 years, at the beginning of the fourth week of scarlet fever developed symmetrical gangrene of the skin of both calves simultaneously with hæmorrhagic nephritis. Complete recovery occurred without operation. The condition is attributed to damage of the vaso-motor centre, and the capillaries by the scarlatinal toxins. Congenital weakness of the vascular system was probably a predisposing cause. The mother had always been anæmic, and had had severe atonic hæmorrhage after the birth of this child. A sister of the patient had had an attack of purpura in the previous year. Of fourteen cases of post scarlatinal gangrene, including those recently reported by Heubner and

Potpeschnigg (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, VI, p. 235, and 1910, VII, p. 521), five died, five recovered after amputation and four without surgical intervention. J. D. ROLLESTON.

**Purpura hæmorrhagica in convalescence from scarlet fever** (*Western Med. Rev.*, 1912, XVII, p. 116).—E. C. Stevenson records a case in a previously healthy girl, aged 5 years, with no family history of hæmophilia. On the twelfth day of scarlet fever she developed a discrete papular rash accompanied by headache and malaise. Five days later the rash had gone and there was profuse hæmorrhage from the right nostril. The next day there were hæmorrhages from the left nostril and oozing of blood from the mouth. On the third day of the hæmorrhagic condition purpuric spots appeared on the body, a large hæmatoma in the right upper eyelid and another on the left cheek. Hæmatemesis, hæmaturia and bloody stools followed. Temperature 101°–103·4° F. The hæmorrhagic condition lasted eight days, during which the girl became weak and restless. Finally, complete recovery took place. Treatment consisted in injections of normal saline every three or four hours, 10-gr. doses of sodium lactate, perchloride of iron and adrenalin. An extensive bibliography is appended.

J. D. ROLLESTON.

**Localised and confluent varicella** (*Lyon méd.*, 1911, CXVI, p. 237).—Chatin and Rendu record a case in a child in whom the eruption at first resembled eczema. There was a large area covering the front of the chest and a similar one on the back. On closer examination the typical elements of a chickenpox eruption were found between these areas and on the limbs. In the eczematoid areas the varicella lesions had been modified by their confluence. The surrounding skin bore a slight yellowish tinge. On inquiry it was learnt that application of tincture of iodine had been made to the chest three weeks previously. A similar case has been recorded by Galliard, and the writers themselves have often noticed that in children under one year the eruption of chickenpox is often much more confluent on the lower limbs than on the trunk, owing to the irritation caused by the fæces and urine.

J. D. ROLLESTON.

**Streptococcal septicæmia with purulent œdema in varicella** (*Münch. med. Woch.*, 1911, LVIII, p. 2274).—K. Blühdorn.—A child, aged 1 year, who had had measles a fortnight previously, was admitted to hospital with numerous, partly necrotic varicella lesions and marked œdema of the head and neck. Temperature 104° F. Free incisions into both sides of the neck gave issue to much œdematous fluid from which streptococci were cultivated. The same organisms were found in blood-cultures. Anti-streptococcal serum (40 c.c.) was injected, but death took place four days after admission. No necropsy. The necrotic varicella lesions were probably the portal of infection.

J. D. ROLLESTON.

**The blood-pressure in erysipelas** (*Thèses de Paris*, 1911–12, No. 102).—A. Bach.—In ordinary cases the fall of blood-pressure is slight, but in severe cases it is considerable. The fall is due to lesions of the suprarenals due to the erysipelatos infection, as shown by the concomitant symptoms and post-mortem evidence. Hypotension is an early and sure sign of a grave attack. Suprarenal opotherapy in the form of adrenalin can in certain cases combat the suprarenal insufficiency successfully and improve

the prognosis. The thesis contains the histories of fifteen cases, two of which occurred in girls aged 14 and 16 years respectively, the rest in adults.

J. D. ROLLESTON.

**The suprarenals in erysipelas** (*Presse méd.*, 1911, xix, p. 929).—**Lesné, Gerard and Françon** record eleven cases, one of which was in a girl, aged 14 years, illustrative of acute inflammation of the suprarenals in erysipelas. The characteristic symptoms are arterial hypotension, asthenia, vomiting, diarrhoea and sudden death, but a fatal issue may be averted by the administration of adrenalin. Anatomically the suprarenals show more or less destruction of the medulla. Leucocytic infiltration, composed chiefly of small mononuclears and hæmorrhages, are found in the zona reticularis.

J. D. ROLLESTON.

**Encephalitis following whooping-cough** (*Deut. Arch. f. klin. Med.*, 1910, xcix, p. 557).—**V. Domarus**.—A hitherto healthy girl, aged 6 years, in convalescence from a moderately severe attack of whooping-cough, developed right hemiplegia and aphasia. The case was exceptional in that, contrary to the rule in such cases, according to which either complete recovery or death takes place, some paresis and disturbance of speech persisted. There was no obvious mental impairment.

J. D. ROLLESTON.

**An unusual case of typhoid fever in a young child** (*Med. Record*, 1911, ii, p. 1226).—**F. J. Barrett** describes a case in a boy, aged 3½ years, which showed the usual features save marked intestinal hæmorrhage on the fifth day. This complication is most frequent towards the end of the second week, and is very rare under ten years of age. The patient was aphasic for three weeks during convalescence.

F. R. B. ATKINSON.

**Pulmonary abscess in typhoid fever** (*Giorn. internaz. d. Sci. med.*, 1912, xxxiv, p. 263).—**T. Grossi**.—A girl, aged 13 years, at the end of the fourth week of an ordinary attack of typhoid fever complained of severe pain in the chest, and the temperature, which had been normal for some days, rose to 101·6° F. An area of impaired resonance and weakness of breath-sounds with a few small and medium-sized crepitations was found in the left subscapular region. On the third day, after a fit of coughing, the patient brought up abundant purulent sputum, slightly blood-stained, in which pieces of lung tissue could be seen with the naked eye. A bacteriological examination was not made. The expectoration lasted about two days and then the temperature fell and recovery took place.

J. D. ROLLESTON.

**Thrombosis of femoral artery complicating typhoid fever** (*Canad. Journ. Med. and Surg.*, 1912, xxxi, p. 92).—**H. T. Machell**.—A boy, aged 9 years, developed thrombosis of the right femoral artery on the nineteenth day of a severe attack of typhoid fever. The whole leg from just above the knee became gangrenous. Amputation was made through the thigh seven weeks later, and the boy made a good recovery. The rarity of this complication in the typhoid fever of children is shown by the fact that this is the first instance among 494 typhoid cases admitted to the Hospital for Sick Children, Toronto, since its opening in 1875.

J. D. ROLLESTON.



**A case of delirium due to an infection without mental confusion or amnesia of fixation** (*'Arch. de méd. des enf.,'* 1911, xiv, p. 521).—**Lesage** and **Collin** described this condition in a child, aged 13 years, occurring during typhoid fever and associated with tetany and polyneuritis. The child rapidly recovered from all the symptoms. F. R. B. ATKINSON.

**The dietetic and general management of typhoid fever in children** (*'Med. Record,'* 1911, II, p. 1204).—**C. G. Kerley** recommends the following diet in this disease. Gruels: two ounces of cereal to a pint of water; broth, milk-sugar or sherry wine may be added to make the gruels palatable. Well-cooked rice, farina, cream of wheat, served with butter and cane- or malt-sugar. Milk foods rarely more than once a day. Skimmed milk should be always mixed with a gruel; the whites of two, three or four eggs daily with orange juice, lemonade and weak tea between the regular feedings. Early in convalescence scraped steak, custard, soft boiled eggs and junket are permissible. Feeds should never be given oftener than three-hourly. Fat is badly digested, but may be given in small quantities mixed with other foods. The author believes a milk diet has been used too much in typhoid fever, and he noticed in such cases the disease was more severe and the illness lasted longer than with a mixed diet. On a milk diet tympanites was the rule, while on a mixed diet it was the exception. Drugs had been of no service in his cases except to produce an evacuation when there were not two in twenty-four hours, and control the evacuations if there were more than four in twenty-four hours. No attempt should be made to reduce the temperature if it did not rise above 104° F. If the temperature rose higher the cold pack should be used.

F. R. B. ATKINSON.

**Typhus fever in children** (*'Gaz. d. hôp.,'* 1912, LXXXV, p. 609).—**C. Nicolle** and **E. Conseil**.—Children, and especially infants, present a relative immunity to typhus. On the other hand, the disease is liable to escape notice owing to the mild and abortive character of such cases, which therefore possess considerable epidemiological importance. Five illustrative cases are recorded in Tunisian children aged from three to twelve years.

J. D. ROLLESTON.

**Epidemic cerebro-spinal meningitis in Athens** (*'Arch. de méd. des enf.,'* 1911, xiv, p. 801).—**A. Papapanagiotu** records fourteen cases which occurred during an epidemic in Athens in the first quarter of 1911. The ages ranged from eight months to ten years. In young infants the diagnosis was difficult owing to a sudden onset with respiratory or gastro-intestinal symptoms or to an insidious onset, the characteristic signs of meningitis not appearing until late. Three cases had serious complications, two irido-choroiditis and one otitis media ending in complete deafness. All were treated early with Dopter's serum, with only one death. The writer followed Netter's plan of giving an intra-spinal injection on three successive days of 20 to 30 c.c. in children above two years and 10 to 20 c.c. in children below that age. In only one case was a fourth injection necessary. The quantity of fluid withdrawn was not always equal to that injected, but was sometimes less, without any harmful results. Three cases had diffuse urticaria or pains in the joints due to the serum.

J. D. ROLLESTON.

**Epidemic cerebro-spinal meningitis** (*'Dublin Journ. Med. Sci.,'* 1912, I, p. 100).—**H. S. Millar** gives a general review of this disease, discussing

in turn the pathology and bacteriology, clinical signs and symptoms, diagnosis and differential diagnosis. Otorrhoea is a very frequent complication. Among other complications may be mentioned abscess, pneumonia, pericarditis, hydrocephalus, nerve-deafness. The best treatment is to inject Flexner's serum into the spinal canal, after withdrawal of cerebro-spinal fluid by lumbar puncture. Lumbar puncture alone is a means of relief of the headache; it also prevents dilatation of the ventricles and subsequent hydrocephalus, and, if there are signs of intra-cranial pressure, should always be given a trial. Drugs are of little use. Potassium iodide is suggested by many, but does not seem to be of much value. Potassium bromide and chloral hydrate relieve headache to a slight extent, but morphine is said to be directly harmful.

J. ALLAN.

**Acute glandular fever in children** (*Arch. of Pediat.*, 1912, xxix, p. 62; and *Am. Journ. Dis. Child.*, 1912, III, p. 241).—**S. V. Haas** considers the disease is a clinical entity. The chief symptoms are fever, malaise, and acute swelling and tenderness of the glands of the neck, accompanied by a lesser involvement of the entire glandular system. The exudative diathesis exists in every instance and may be a predisposing factor. The condition is contagious. Streptococci may be the cause, but probably more than one organism is responsible for the disease. The prognosis is favourable, but fatal cases have been reported.

F. R. B. ATKINSON.

**A case of pellagra which had its origin in Pennsylvania, probably Philadelphia, with brief notes of the disease as recently observed in Northern Italy** (*Med. Record*, 1911, II, p. 209).—**M. B. Hartzell** narrates the only case, which occurred in a girl, aged 9 years, yet reported having its origin in Pennsylvania. The child died. The author studied the disease in Northern Italy in the pellagrosarium of Inzago, ten miles from Milan. Dr. Fritz there pointed out that in some cases there is in the disease a marked loss of sensibility in the pharynx, and also that it is thought that the children of pellagrous parents show a greater disposition to the disease than the children of non-pellagrous parents, but it is not believed that the disease is hereditary.

F. R. B. ATKINSON.

**Poisoning by bromoform during whooping-cough** (*Ann. de méd. et chir. inf.*, 1911, xv, p. 433).—**E. Merot** narrates a case of a child, aged 3 years, who swallowed a dose of 15 gm. of bromoform during the absence of the nurse. Lavage of the stomach was at once performed and a great part of the drug removed, but the author thinks 5-7 gm. were absorbed. The child recovered.

F. R. B. ATKINSON.

**Stramonium poisoning** (*Austral. Med. Gaz.*, 1912, xxxi, p. 187).—**H. H. Parkinson** describes a case in a boy, aged 4 years, who had been given by accident an infusion of stramonium instead of senna leaves. The author was called in five hours afterwards, and found the boy unconscious and throwing his arms and legs about. The pulse was 200, temperature 98° F., the respiration very shallow and rapid, pupils widely dilated. The treatment consisted of  $\frac{1}{15}$  gr. apomorphine, rest in bed, and hot bottles to the body. Five hours afterwards the child was conscious but still very restless; the temperature 99·2° F., pulse 130, pupils moderate. A mixture of aconite, opium and HCl was prescribed, and the child gradually recovered.

F. R. B. ATKINSON.

**Belladonna poisoning in a child** (*New York Med. Journ.*, 1912, I, p. 177).—**R. E. Coughlin**.—A boy, aged 7 years, was under treatment for nocturnal enuresis with ten-minim doses of tincture of belladonna thrice daily. After a week's treatment he became drowsy and began to have visual hallucinations. His pupils were much dilated, and his face, usually pale, was very red. Recovery followed a good dose of castor oil. For two nights before the poisoning there was no bed-wetting, but on the second night after the poisoning the incontinence returned in an aggravated form.

J. D. ROLLESTON.

**A fatal case of bismuth paste poisoning** (*Med. Record*, 1912, I, p. 119).—**L. W. Ely** records a case in a girl, aged 3 years, with a sinus in the right lumbar region. A rise of temperature followed each injection, but otherwise nothing of note occurred until about three months after the commencement of treatment, when black discoloration appeared on one side of the tongue. Five days later constant vomiting ensued, and death took place within a fortnight, being preceded by buccal ulceration and bloody stools.

J. D. ROLLESTON.

**Snake-bite** (*Austral. Med. Gaz.*, 1912, XXXI, p. 56).—**E. Florance** was called to attend a child about ten years of age, and arrived about five minutes after the child had been bitten. He administered spir. amm. aromat. ʒj in ʒij of water. The pupil dilated immediately and the pulse improved. In a few seconds the pupil began to contract, and the same amount of ammonia in ʒiv of water was administered. The pupil dilated at once, and remained in that condition for half a minute, when it again contracted. The same dose was repeated. This treatment was extended over two hours, the periods of dilatation of the pupil gradually lengthening, and the child ultimately recovered. The author considers that the pupil is an excellent guide for the administration of ammonia, which, or some other rapidly diffusive stimulant, is indicated.

F. R. B. ATKINSON.

**The frequency of intestinal parasites, especially of the Oxyuris vermicularis, in children** (*Monatsschr. f. Kinderheilk.*, 1911, x, p. 325).—**A. Ruotsalainen** found among 300 children 110 cases of intestinal worms or their eggs (36·37 per cent.); among 132 boys, 52 cases (39·4 per cent.); and among 168 girls, 58 cases (34·5 per cent.). The oxyuris was found in 31·67 per cent. of cases, and the next most frequent was the *Ascaris lumbricoides* in 2·33 per cent. The most common age of the child was between twelve and fifteen. Telemann has described an excellent method of examining the stools for eggs. The stool is mixed with HCl and ether and then centrifuged, as a result of which three layers are separated. The eggs are to be found in the lowest layer, and can easily be examined microscopically.

F. R. B. ATKINSON.

**The round worm (*Ascaris lumbricoides*)** (*China Med. Journ.*, 1911, xxv, p. 146).—**J. Preston Maxwell** writes an excellent article on this subject based on his experience in China. He finds that the chief source of infection is uncooked vegetables, especially leek and garlic. Its normal habitat is the upper part of the small intestine, but it can live in the stomach and large intestine. As many as a hundred have been vomited up in the course of a day. The symptoms due to the presence of the worm are as follows: (1) The presence of ova in the stools. (2) A large, flabby.



protuberant abdomen in a child is quite pathognomonic. (3) Discomfort in the region of the stomach; it may amount to severe pain. (4) Craving for food coming on about an hour after a good meal is an almost certain sign. (5) Reflex symptoms, as grinding of the teeth in sleep, convulsions, etc. The writer is doubtful regarding nose-picking as being due to the presence of the worm. (6) Perversions of appetite, voracious feeding, bulimia. (7) Diarrhoea with dysenteric stools may occur. (8) Worm abscess. (9) Faecal fistula due either to the opening up of a patent Meckel's diverticulum by the obstruction of the bowel below with a mass of worms, or by the formation of a worm-abscess and subsequent opening of the abscess cavity into the bowel and exteriorly and the formation of a track. (10) A tumour may be formed of worms inside a dilated piece of the bowel. (11) Prolapse of the bowel. (12) Diarrhoea coming on soon after midnight is occasionally present. (13) Anæmia, often profound. *Treatment*.—Castor oil with four to five grains of santonin for an adult, and a smaller dose of the latter for a child, followed by systematic dosing with a powder of hyd. c. cret. and santonin or calomel and santonin. The author considers yellow is more efficacious than white santonin. This is the only treatment.

F. R. B. ATKINSON.

**Extreme somnolence in a case of ankylostomiasis** (*Brazil Medico*, 1911, xxv, p. 391).—**Paranhos** was called in to examine a child, aged 10 years, who was said to be in excellent health, but afflicted by exaggerated desire for sleep. After a profound sleep of eight to ten hours he would be roused with difficulty, only to fall asleep again as soon as he was out of bed. He could find nothing in the state of the child to account for this. The blood was examined, with a negative result so far as the presence of parasites was concerned, but it showed a considerable degree of eosinophilia. This led him to consider the possibility of some intestinal parasite. Examination of the stools showed abundant eggs of ankylostoma and a few of tricocephalus. Thymol was administered and the somnolent condition was completely cured. He points out that cerebral disturbances have been noticed before in ankylostomiasis, and considers that these give support to the hypothesis that many of the effects (including the anæmia) in this disease are due rather to some toxin secreted by the ankylostoma and absorbed into the system than to actual lesions caused by the parasite in the intestinal tract.

M. D. EDER.

## Treatment.

**Various infections and inflammations in children treated with tincture of iodine** (*New York Med. Journ.*, 1911, II, p. 1179).—**E. Mather Still** advocates this treatment in various infections and inflammations in children, chiefly throat affections. The pure tincture of iodine is applied to the throat by means of a swab. Sometimes a burning sensation in the throat is felt subsequent to this application, but it quickly passes off. The bactericidal action of the tincture of iodine is very marked, and severe sore throats often quickly clear up. A milder application for the throat consists of equal parts of tincture of iodine and glycerine. The author has carried out this treatment in 660 cases—tabulated as follows: Amygdalitis, 400; chronic and subacute otitis media, 32; otalgia, 2; pharyngitis, 42; diphtheria of the tonsils, 44; nasal diphtheria, 8; nasal and tonsillar diph-

theria, 1; stomatitis, 65; thrush, 5; laryngeal croup, 9; laryngitis, 28; scarlet fever, 9; measles, 7; nasal discharge (other than diphtheria), 6; multiple furunculosis, 2. He is of opinion that tincture of iodine, applied locally to the throat in the acute contagious diseases early in the attack and during the active stage of the disease, will prevent very materially the spread of the contagion to other members of the family and outsiders.

J. ALLAN.

**Ichthyol in the treatment of whooping-cough** (*Lyon Méd.*, 1911, cxvi, p. 992).—**Naamé**, in a communication to the Soc. de Thérap. of Paris, advises the use of a glycerine syrup with 10 per cent. ichthyol. His formula is: Ammonium ichthyol, 10 grm.; glycerine, 20 grm.; compound tincture of balm, 2 grm.; essence of mint, 10 per cent., 2 grm.; essence of bitter almonds, 3 drops; syrup, 500 grm. The daily dose is four to six coffee-spoonfuls up to one year, three to four dessert-spoonfuls from three to four years, and four to five table-spoonfuls for older children. The author recommends an emetic at the beginning of treatment, and the use of a menthol oil to the nostrils.

VINCENT DICKINSON.

**Treatment of pertussis with vaccine** (*Amer. Journ. Dis. Child.*, 1912, iii, p. 41).—**E. E. Graham** treated twenty-four children whose ages ranged from under 6 months to 8 years. All but one of the cases were in private practice. The patients at first received 20 million bacteria every four days, and when improvement began every three days, and finally every two days. From six to nine injections were given in each case. Seven were apparently not benefited, and seventeen showed some improvement. Graham thinks that there would have been better results had he employed larger doses. No rash or other complications due to the treatment were noted.

J. D. ROLLESTON.

**Pertussis vaccine as a curative and prophylactic agent** (*Pediatrics*, 1912, xxiv, p. 161).—**E. W. Saunders, W. Johnson, T. W. White,** and **J. Zahorsky** used the vaccine prepared from Bordet's bacillus in forty cases of whooping-cough. No ill-effects were noted, and benefit was obtained in all cases in which the cough was of not more than two or three weeks' duration. The ages of the patients ranged from 3 months to 11 years. Doses of 5 million bacteria were at first given, but better results were afterwards obtained by larger doses up to 25 millions. The improvement in the number and severity of the paroxysms was often evident in less than twenty-four hours. The vaccine was used as a prophylactic agent in fourteen cases, only one of which developed whooping-cough, which lasted only a week, although they were in constant contact with well-developed cases. Three injections were given at intervals of seven or eight days, both for curative and for prophylactic purposes.

J. D. ROLLESTON.

**Treatment of furunculosis in children by bacterial vaccines** (*Arch. of Pediat.*, 1911, xxviii, p. 772).—**McDonald**, in the past three years, has treated twenty-eight cases in children varying in age from two months to three years, including those with a few scattered furuncles and cases in which it was very difficult to find a spot not infected for the passage of the hypodermic needle. All existing furuncles were opened at the time the therapeutic inoculations were begun, and most of the cases were treated by a stock vaccine. The *Staphylococcus aureus* and *albus* were the causative

organisms in all cases. The average initial dose was 25,000,000 staphylococci; some cases received as much as 150,000 without untoward results. The average number of inoculations per patient was three, spaced seven days apart. In three cases there was slight redness and swelling at the point of inoculation, which subsided in two or three days. It was not an uncommon occurrence for a fresh crop of furuncles, usually small in size, to appear two or three days after the first inoculation. This, however, did not follow subsequent inoculations. He relates an extreme case in a girl, aged 1 year, who became covered with small pustules after a protracted attack of enteritis. The pustules increased in size and number in spite of correction of the feeding, the internal use of calcium sulphide, and the evacuation of the pus; the temperature was 102° F., and the respirations shallow and rapid, probably owing to a septic pneumonia. A culture from one of the furuncles showed the infective organism to be *Staphylococcus aureus*. A vaccine was prepared, and on the following day the patient was inoculated with 25,000,000 of the dead organisms. Seven days after, the furuncles that had been opened stopped discharging and were beginning to heal, the breathing had become better, and the temperature was normal. The child received four subsequent inoculations, spaced seven days apart; the last dose was 100,000,000 dead staphylococci. The furuncles had then disappeared, the respiration was normal, and the child made an uneventful recovery.      J. E. BULLOCK.

**Bacterin treatment of septic rhinitis of scarlet fever, with report of 100 cases** ('*Amer. Journ. of Med. Sciences*,' 1911, II, p. 403).—J. A. Kolmer and P. G. Weston maintain from their own observations and statistics that the late desquamation of scarlet fever patients is but little capable of spreading infection, but that nasal discharges are of great importance in transmitting the disease after isolation has been discontinued. They hold that the rhinitis of scarlet fever is septic in character, distinctly infectious in itself, and probably harbours the contagium of scarlet fever. Careful bacteriological examinations of 100 cases resulted in the detection of but four organisms, of which the *Staphylococcus aureus* was by far the most frequent, occurring alone in 89 cases. These cases were treated by autogenous or by stock bacterins (vaccines) with 77 per cent. cures, 8 per cent. improved, 12 per cent. not improved, and in 3 per cent. the treatment was stopped before results were conclusive.      MACLEOD YEARSLEY.

**Flexner's serum in cerebro-spinal meningitis** ('*Amer. Journ. Obst.*,' 1912, LXV, p. 903).—E. G. Hynes records a case in a girl, aged 5½ years, who received in all 117 c.c. of Flexner's serum and three doses of an autogenous vaccine containing in all 600,000,000 dead meningococci. The child recovered, but was left absolutely deaf. The peculiar features of the case were the absence of any deep stupor or delirium, the occurrence of cystitis, the persistent rigidity of the back and neck throughout most of the illness, and the great variance between the temperature (99° or 100° F.) and the pulse (160 or 170).      J. D. ROLLESTON.

**Failures in anti-meningococcal sero-therapy** ('*Paris méd.*,' 1910-11, II, p. 213).—C. Dopter discusses their causes and prevention. Among the former are (1) the gravity of the infection; in fulminating cases the serum is useless. (2) The age of the patient; in spite of serotherapy, the mortality in infants is still from 48-50 per cent. (3) Late injection. (4) Defective technique, *e.g.* subcutaneous injections or injection into the subdural instead of



into the subarachnoid space. (5) Insufficient dosage and number of injections. (6) Anatomical peculiarities, *e.g.* obstruction of the ventricular orifices; in such cases intra-ventricular injection is indicated as in Fischer's case (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, p. 428). (7) Simultaneous infection of the meninges by other organisms, *e.g.* streptococcus, staphylococcus, pneumococcus, parameeningococcus, or tubercle bacillus. (8) Symptoms due to the serum itself, including rashes, serum meningitis, and anaphylaxis. To prevent the latter Besredka's method may be employed of giving a subcutaneous or rectal injection of serum some hours before the intra-spinal injection. **G. Guinard** (*Thèses de Paris*, 1911-12, No. 64) incorporates Dopfer's views in his thesis. J. D. ROLLESTON.

**The value of anti-streptococcus serum (polyvalent) in erysipelas** (*Ind. Med. Gaz.*, 1912, XLVII, p. 20).—**N. S. Simpson** describes this case in a girl, aged 15 years, in whom no improvement in the erysipelas of the face occurred from the usual remedies. Ten c.c. of the serum quickly cured the condition. F. R. B. ATKINSON.

**Auto-serum treatment of ascites; cirrhosis of the liver in an infant** (*Practitioner*, 1912, LXXXVIII, p. 478).—**M. Lahiri** describes the following case: A child aged 18 months had been ill for eight months with a hard enlarged liver; the abdomen was filling with fluid, the urine was albuminous and scanty. The face and eyes became puffy, and the lower limbs, scrotum, and skin of the abdomen œdematous. The treatment consisted of tinct. cantharidis  $\frac{1}{15}$  m four times a day, Barham's mixture and mag. sulph. The urine increased in amount and most of the œdema disappeared, but the enlarged liver and ascites remained. Half c.c. of the child's serum was injected into the flank, and 8 days afterwards 1 c.c. The last injection, six weeks after the first, was 2 c.c. The patient was cured. F. R. B. ATKINSON.

**Suprarenal opotherapy** (*Journ. méd. franç.*, 1911, v, p. 471).—**E. Sergent**.—The suprarenals have two principal functions, the one antitoxic and the other vaso-constrictor. In suprarenal insufficiency the symptoms are due to failure of the one or the other of these functions. Apart from suprarenal insufficiency suprarenal extract has been employed as a vaso-constrictor and hæmostatic, as a cardio-vascular tonic in heart disease, and as an agent in recalcification in such diseases as rickets, osteomalacia and tuberculosis. The total extract should be reserved for cases in which asthenia and profound prostration are the dominating symptoms. Adrenalin is sufficient when the signs of hypotension are most marked, as often happens in infectious diseases, especially typhoid fever. The extract should be given in cachets containing 0.30 gm. once to thrice daily and continued for as long as the symptoms of suprarenal insufficiency persist; in prolonged cases for periods of ten to twelve consecutive days separated by intervals of two to three days. The only unpleasant symptoms ever noticed are nausea, vertigo, flushing, and occasionally tremor, which all promptly cease when the drug is stopped. Adrenalin should be administered as follows: twenty to thirty drops of 1 in 1000 solution should be divided up into four or five equal doses in the twenty-four hours. Sergent employs ingestion, not injection. The blood-pressure in such cases should be taken daily, so that the drug may be discontinued at the first sign of intolerance.

J. D. ROLLESTON.

## Reviews.

LEHRBUCH DER KINDERHEILKUNDE. By O. HEUBNER. Third edition. Two volumes. Twenty-four illustrations and 5 coloured plates. Leipzig: J. A. Barth, 1911. Price M. 35, bound M. 39.

THE second edition of this work was reviewed in this JOURNAL\* in 1905, and its value as a text-book insisted on. This third edition has been carefully brought up to date. In addition to this the illustrations have been improved, and some of them have been reproduced in colours, thus making them much more useful than the former ones were. The various morbid conditions which occur in children are exhaustively and yet clearly dealt with, and the two bulky tomes form a veritable cyclopædia, invaluable for reference, especially as a copious index of contents and a separate one under authors' names have been provided. In a book of this kind it would be impossible to touch on the individual articles and their merits, but a perusal of several of them leaves no doubt in the mind that the work should find its place on the shelves of all those engaged in the study of the child and its diseases. There is, however, one point which must be alluded to, and that is the general absence of reference to British investigations on the subject. The valuable 'Transactions of the Society for the Study of Disease in Children,' for instance, appear to have been overlooked. It is necessary to remind our German friends that this country has been in many ways the pioneer in the subject of children's diseases and of the treatment of the child, especially in the realms of hygiene and prophylaxis. In many ways our children's hospitals compare favourably with those of the continent. This is not a question of cheap chauvinism, but a patent fact. As is usual with the books brought out by the Barth Press of Leipzig, the volumes leave nothing to be desired as regards type and get-up.

G. P.

ORTHOPÆDIC SURGERY. By E. H. BRADFORD, M.D., and R. W. LOVETT, M.D. London: Baillière, Tindall & Cox, 1912. Royal 8vo. Pp. viii + 410, with 364 illustrations. Price 14s. net.

POSSIBLY on account of the glamour of the abdominal operation, orthopædic surgery has been somewhat under a cloud in this country. Fortunately this cloud seems to be lifting, as there is an undoubted increase of interest in the subject lately on the part of the student and practitioner. For some time most of the text-books on this branch of surgery have been of large size, and suited to the needs of the specialist rather than to those of the student. The authors of this work, realising the necessity for a smaller text-book, have entirely re-written their treatise, and have cut it down by the deletion of unnecessary details to a size that can be readily digested by any student. Yet in so doing they have not scamped any section of the subject, nor omitted to bring the matter up to date. The principles of treatment throughout are based upon a sound pathology, and though all the details of the mechanical methods are not always described the mechanical principles are always clearly stated. It is the necessity for a due appreciation both of mechanics and of pathology that is the chief difficulty in the training of an orthopædic surgeon.

\* THE BRITISH JOURNAL OF CHILDREN'S DISEASES, 1905, ii, p. 336.

Many methods which are little used in this country, and many that are completely neglected, are described, and the book is replete with suggestions for the English surgeon in search of new work. As examples, the section on the treatment of scoliosis by correction in plaster jackets may be cited—a method which has never found favour in this country, but which is undoubtedly the most successful method of treating severe cases. In a very brief section on the treatment of ankylosis, also, much in the shape of the new method is suggested. The instrumental methods described are naturally very different from ours, but this is in a way an advantage as the principles are illustrated, and there is always a great deal to be learnt from the methods of others. The book is well illustrated, the illustrations being to a large extent original, and it is clearly and concisely written. It can be safely recommended both to the student and to the practitioner, and it should certainly be read by all who specialise in orthopædics.

R. C. E.

LE INFEZIONI PARATIFOSE NELL' INFANZIA. Per il Dott. SEBASTIANO CANNATA. Palermo, 1911.

Dr. CANNATA, assistant to Professor Jemma at the Institute of Clinical Pædiatrics in the University of Palermo, has written an admirable monograph on paratyphoid infections in childhood. He distinguishes three varieties: (1) Pseudo-typhoid or paratyphoid properly so-called. (2) A gastro-intestinal form. (3) Anomalous forms. Twelve illustrative cases are recorded in children, aged from seventeen months to ten years. Eleven belonged to the first class, and one in which the symptoms were those of catarrhal jaundice was an example of the third class. In ten the infection was due to paratyphoid B bacillus, and in two to paratyphoid A bacillus. The author holds that at present there are no anatomical or clinical means of distinguishing between typhoid and paratyphoid fever in children, and that diagnosis is impossible without laboratory aid. He gives preference to the agglutination test, employing a macroscopic method. Attention, however, is drawn to certain points of difference between the two diseases, such as the frequency of nasal and labial herpes in paratyphoid and its rarity in typhoid. Special stress is laid on the relative frequency of paratyphoid meningitis, which owes its gravity to the fact that it is always associated with a paratyphoid septicæmia (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, p. 513). The prognosis, though good in the pseudo-typhoid and gastro-intestinal varieties, in the septicæmic and meningeal forms, which are principally found in infants, is invariably fatal.

The value of the monograph is enhanced by a bibliography of 154 references.

J. D. R.

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## Correspondence.

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### "MUCOUS GASTRITIS."

*To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.*

SIR,—I have to thank you for giving me this opportunity of replying to Dr. Cautley's references to the paper which I published in conjunction with Dr. Willeox in 1907. Two of our conclusions in that communication



are questioned by Dr. Cautley in his paper on "Mucous Gastritis in Infancy."\*

In the first place we were led to conclude that the presence of mucin (recognised by chemical tests) in the vomit of a chronic case of wasting was a sign gravely suspicious of hypertrophic pyloric stenosis. We stated that "if in a wasted infant there is retention of food in the stomach, with mucin in the gastric contents, with a marked excess of ferment activity, we think there is strong reason to believe that we are dealing with a case of hypertrophic pyloric stenosis. On the value of a negative result we would not at present care to lay much stress," since we regarded these changes as secondary, being due to gastritis and hypertrophy of the gastric wall respectively. We have now analysed the gastric contents in about a dozen cases of hypertrophic pyloric stenosis, all of which, with one exception, were verified post mortem, but have not investigated one early enough to find no mucin, although we have seen the mucin disappear to a faint trace under treatment by lavage. On the other hand, we have not found mucin to be present apart from hypertrophic pyloric stenosis.

Dr. Cautley, however, holds that the presence of mucin in the vomit is not very suggestive of hypertrophic pyloric stenosis, since the condition he terms "mucous gastritis" may exist alone, and, indeed, is not uncommon. I am not, I think, prepared to yield this point on the evidence he has as yet adduced for "mucous gastritis." The case he describes in detail appears to me to be one of hypertrophic pyloric stenosis of the mild type seen particularly in female infants. I do not believe that "marked" gastric peristalsis becomes visible in the absence of hypertrophy of the gastric wall, nor that a pylorus becomes palpable when plugged with mucus. Further, since there appears to have been no great excess of mucus in the vomit for the first four weeks of the illness, the term "mucous" gastritis does not seem to be very applicable to the primary cause of the child's condition. Having no qualms in admitting the possibility of a cure in cases of hypertrophic pyloric stenosis without operation, I should have no hesitation in making this diagnosis in any case where, as in the case under discussion, the two physical signs of the condition were present. If this be the correct diagnosis here the gastric contents, so far as they are reported, are in line with the results we recorded. The mild cases of "mucous gastritis" to which Dr. Cautley refers, but which he does not describe, one would imagine to be cases of acute gastritis, with perhaps colitis—such cases as do not enter into the types which Dr. Willcox and I investigated.

The second point raised by Dr. Cautley refers to our classification of cases, which he regards as incomplete. This it was admittedly, since we were attempting to base a classification entirely on the differences existing in the gastric secretion. Dr. Cautley's classification seems in many respects preferable to ours, but that it is based on analytical investigations does not appear.

I am,

Yours faithfully,

53, Queen Anne Street, W.

REGINALD MILLER.

\* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 241.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

AUGUST, 1912.

No. 104.

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**Original Articles.**

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INFANTILISM WITH CHRONIC INTERSTITIAL NEPHRITIS.

By A. E. NAISH, M.B., M.R.C.P.,  
*Senior Assistant Physician, Sheffield Royal Hospital.*

WITHIN the last year or two attention has been drawn to the association of infantilism with albuminuria, polyuria, and polydipsia. In March, 1911, Dr. Morley Fletcher brought a case before the Children's Section of the Royal Society of Medicine, and at the October and November meetings of the same section Dr. G. A. Sutherland and Dr. Reginald Miller showed similar cases. In Dr. Sutherland's case albumin was absent. Opinion was expressed by some of the members that these cases were examples of diabetes insipidus with functional albuminuria. At the last annual meeting of the British Medical Association, however, Dr. Leonard Parsons showed the post-mortem material from a case which displayed similar symptoms. There was extensive fibrosis of both kidneys, which together weighed less than one ounce.

In 1900 Dr. Glover Lyon\* showed before the Hunterian Society the kidneys of a boy, aged 16 years, who had appeared about ten years old. The left kidney was almost converted into fibrous strands, and the right showed marked renal fibrosis. The left

\* 'Lancet,' 1901, i, p. 102.

kidney was  $\frac{1}{4}$  in. thick and  $\frac{3}{4}$  in. long, and the right about  $\frac{3}{4}$  in. thick.

During the year 1911 I had the opportunity of seeing autopsies on two cases which presented similar symptoms. The clinical details, I regret, are not complete.

CASE 1.—Herbert D—, aged  $9\frac{1}{2}$  years, was very small at birth: his mother said that he was “like a little doll,” and that she was “afraid of his dropping through his clothes.” He was breast-fed for a year, and came on well, suffering from no digestive trouble and being able to walk alone at about ten months old. His limbs were quite straight, and he had no sweating, bronchitis, or other signs of rickets. After being weaned he was always wanting to drink, and when he was two or three years old his mother consulted a doctor to see if he had diabetes. He used to pass large quantities of urine, but on certain occasions he had “stoppage of water,” and then he “used to bring up his water by the mouth.” These attacks had become more frequent lately, and for the last year or two had occurred three or four times per annum. His legs had begun to bend about a year before his death. At nine years old he weighed 32 lb., and was 3 ft. 4 in. in height. He had been operated on five times for hypospadias.

*Family history.*—There were five other children. Two, aged respectively thirteen and seventeen, are alive and fairly well; one, aged five years, has congenital morbus cordis. One died at six years old from a burn. One died at five years, cause unknown; had been healthy previously. All these children had been a fair size at birth; one had been “rather small,” but was now healthy. The father suffered from asthma. Mother healthy, no miscarriages.

When I first saw the child he was under the care of my surgical colleague, Dr. A. Garrick Wilson, for hypospadias. He was infantile in appearance, and would naturally have been taken for a child of about four years old. His skin was dry, wrinkled, and inelastic, especially over the backs of the hands. Over most of the body there was a faded yellow pallor, but the cheeks showed a pink tinge. Genu valgum of a moderate degree was present, the ribs were beaded, and there was some enlargement of the radial epiphyses. His mental calibre was about that of a child of four; he was bright and attractive, but with babyish ideas and desires. A specimen of the urine was not then obtainable as he was suffering from enuresis, but a specimen taken a week or two later was found to be free from albumin. He lived for four months after this, and died on March the 6th, 1911, in a semi-comatose condition, with



partial suppression of urine. The urine at this time contained albumin and casts.

At the autopsy the kidneys were found to be very small, together weighing just one ounce. They were rather irregular, but not granular, on the surface. The capsule stripped off fairly readily, but was adherent at a few points. There were one or two small cysts. The cortex was diminished in parts.

Microscopically the tubules were seen to be rather widely separated; the epithelium of the convoluted tubules was cubical in shape and separated from the basement membrane. These

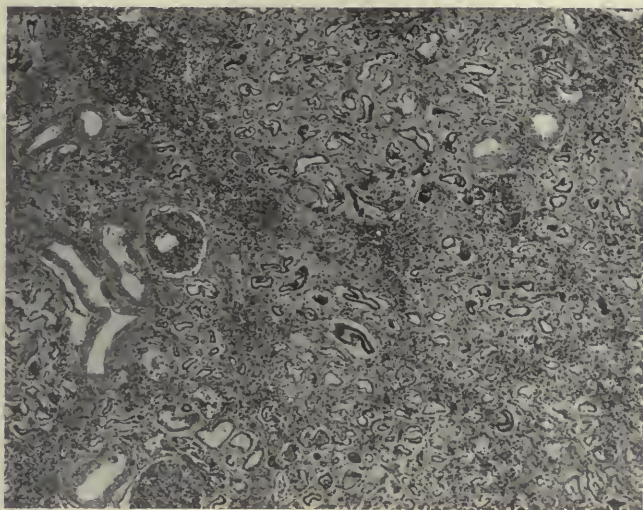


FIG. 1 (from Case 1). Showing (a) the tubules widely separated by interstitial tissue of a very cellular nature; (b) thickening of the vessel-walls; (c) thickening of Bowman's capsule and fibrous change in the tufts.

tubules were dilated, especially towards the surface, and some of them formed cysts. The collecting tubules showed little change. The interstitial tissue was greatly increased, and near the surface it was very markedly cellular. The glomeruli showed considerable change. Bowman's capsule was slightly thickened, and in one or two instances there was marked fibrous contraction of the tufts. The arteries were slightly thickened.

The heart showed a moderate degree of hypertrophy of the left ventricle. The liver and spleen showed no change.

CASE 2.—H. W—, aged 16½ years, was born at full time, but

was very small. The mother was ailing during pregnancy, and she had much vomiting throughout. He was breast-fed for two months and then had milk and "babies' foods." He walked first at two years old. His limbs were quite straight, he had no sweating, indigestion, or bronchitis, and no illness during infancy. He remained throughout his life very small, but bright and active. He was always thirsty, and used to pass large quantities of urine. He was taken to a doctor at about thirteen years of age to see if he had drinking diabetes. His parents thought him very sharp, but although he stayed at school until sixteen years of age he only reached Standard V. He sometimes had sick headaches, but they had been less frequent of recent years. His legs began to bend two years before his death. (A photograph of him at the age of thirteen years shows no signs of bending of the limbs.)

*Family history.*—There were eight other children. Four are alive and well, two died in infancy, one of "consumption of the bowels" at six months, and the other with "a lump in the neck" at one year old. One died of heart disease at seventeen and one of pneumonia at twenty-one.

He was admitted into the hospital under my surgical colleague, Mr. Hadley, who has kindly given me the following notes:

Height, 4 ft. 3 in. The whole body and limbs were small, but not disproportioned to the height; face wizened; high-pitched small voice; undescended testicles; extremely marked genu valgum, the knees overlapping so much that progress was extremely difficult. The ends of the bones were not enlarged and the rickets was not considered to be active.

Urine on admission acid, 1005, no albumin.

Operation for genu valgum on September the 19th. Up to October the 7th progress was quite uneventful and satisfactory. A slight trace of albumin was present in the urine a week after operation. On October the 8th the appetite failed and he complained of vague pains, sometimes in the abdomen and sometimes in the limbs. The albumin markedly increased, respiration rose to 32 and the pulse to 132 and there was some cyanosis. On October the 12th he became drowsy and had deep breathing. At this date the urine contained a large quantity of albumin but no sugar or acetone. The temperature was normal throughout except on October the 8th, when it rose to 99.4° F.

I first saw him on October the 13th, and the likeness to the preceding case at once struck me. The skin showed the same yellowish tinge and lack of elasticity. He appeared to be about ten years of

age; there was no pubic hair and the genitalia were not developed. He was rather drowsy and showed well-marked air-hunger. During this day he passed no urine.

At the autopsy the kidneys were very small, together weighing less than one ounce. The capsules stripped readily; the surface was not granular, but was irregular, with large rounded projections, in appearance somewhat like the foetal lobules. There were no cysts. On section the cortex was relatively diminished only between the prominences.

Microscopically the tubules were widely separated, but less so

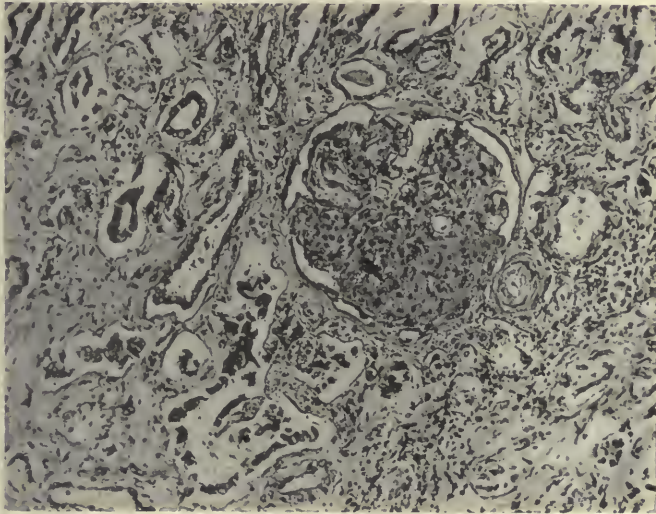


FIG. 2 (from Case 2). Showing the slight degree of change in a Malpighian body; (a) Bowman's capsule is not thickened; (b) about half the tuft is invaded by fibrous tissue.

than in Case 1. The epithelium of the convoluted tubules was cubical in shape and separated from the basement membrane. The tubules were shrunk and not dilated anywhere. The collecting tubules showed little change. The interstitial tissue was greatly increased and in places it was very cellular, consisting mainly of large aggregations of lymphocytes. Bowman's capsule was not thickened. There was no fibrous contraction of the tufts, but at the neck the interstitial tissue was seen invading the glomeruli. The arteries were not thickened.

The heart showed moderate hypertrophy of the left ventricle. The liver and spleen were unaffected.



The microscopical appearances in Case 1 correspond very closely with those in Parsons' case, while in Case 2 the changes are less advanced, there being no cyst formation and comparatively little change in the Malpighian bodies.

Dr. Alan Turner, Physician to the Sheffield Children's Hospital, has kindly allowed me to mention a case that was under his care for the last month or two of life. This youth, aged  $19\frac{1}{2}$  years, was very tiny, but bright and active. When first seen he was suffering from an attack of cystitis, but after this cleared up albuminuria persisted, and he finally died with well-marked uræmic symptoms. He showed no rickety deformities.

I obtained the following history from the parents: He was very small when born, and was somewhat premature. He suffered from "consumptive bowels" when an infant, and he was two years old before he walked. He was always a small eater, but drank a great deal, and passed a large quantity of urine. His parents were "afraid of diabetes." At thirteen years old he weighed 28 lb.; when in his later teens he used to stand on a table and recite poetry. His intelligence was apparently fairly good as he reached Standard VI or VII at school.

Taking all the cases together there are eight showing the relationship of infantilism with polyuria and polydipsia. In all but one albuminuria was shown to be present at some time, in five out of the eight rickets was present, and in four the rickets was of late onset; all those which have come to autopsy (four in number) have shown marked fibrosis of the kidneys. In Dr. Sutherland's case, although the urine showed no albumin, yet the arteries were thickened. The Wassermann reaction in all the tested cases was negative.

In my own Case 1, the association of hypospadias and the presence of congenital morbus cordis in another member of the family are suggestive. In Case 2, although aged 16 years, the testes had not fully descended.

The infantilism in all these cases seems to have been fairly pronounced, especially on the physical side; on the mental side it was more variable, and in Dr. Turner's case almost absent, though even here the intelligence seems to have been that of a sharp child rather than that of a youth of twenty.

The presence of rickets, usually of late origin, in as many as five out of the eight cases, is a striking phenomenon. Dr. Barnes, of the Sheffield Royal Infirmary, has kindly given me a short account of a girl, aged 17 years, who was markedly infantile in appearance.

She was operated on for genu valgum, and died shortly afterwards with uræmic symptoms. Her kidneys were small and fibrotic. I have not included this case in my list as it was quoted from memory and I have no notes.

There is a rather striking facial resemblance among these children. Dr. Fletcher remarked that Dr. Miller's case might be the twin brother of his own, and I could say the same of my own Case 1. Case 2 was so much like him that in spite of the difference in age I was struck by the resemblance as soon as I entered the ward.

Those I have seen do not at all resemble children with syphilitic infantilism.

Dr. Parkes Weber has just published an account of a boy, aged 10 years, with polyuria and polydipsia, but without albuminuria, and with a positive Wassermann. In him, however, the infantilism appears to be of slighter degree, as the height and weight are much nearer the normal and he is described as "active, bright, and intelligent."

Since the above account was written Drs. Miller and Parsons\* have published their paper on "Renal Infantilism," and have mentioned two other cases which belong apparently to the same class as Dr. Weber's, as well as two further cases with nephritis.

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## OBSERVATIONS ON SALINE SOLUTION IN EPIDEMIC DIARRHŒA.

By J. ROSS MACKENZIE, M.D. Aberd.

It is of paramount importance for the general practitioner, and more especially for those who are connected with institutions supported by voluntary contributions, that some reasons should be formulated why normal saline solution should be discarded, and that some estimate should be made of the necessity for, and the therapeutic value of, injecting sea-water plasma in preference to normal saline solution in epidemic diarrhœa.

The object of this investigation was to find from a series of consecutive cases of epidemic enteritis in infants under one year—

- (1) The percentage of cases (*a*) which resist ordinary treatment, and (*b*) which recover under injections of normal saline solution.
- (2) The morbid conditions which prevail in such cases.

\* 'BRITISH JOURNAL OF CHILDREN'S DISEASES,' 1912, ix, p 289.

(3) The explanation of the sudden and permanent response of the organism to injections of fluid.

(4) The value of normal saline solution as compared with sea-water plasma to infants *in extremis*.

(1) The number of cases of epidemic enteritis which do not respond to ordinary medicinal and dietetic measures such as are practised in many children's hospitals is comparatively small, and in my experience forms 15 per cent. of genuine cases.

This statement does not alter the fact that the dangers of this malady in children are very real and a constant menace as soon as the temperature of the soil registers 54–56° F. It does, however, emphasise the fact that a large number of cases of epidemic diarrhœa recover apart from injections of either sea-water plasma or saline solution.

The administration of the former has been unfortunately vaguely practised to my knowledge in many cases of diarrhœa, epidemic or otherwise, and at an age when acute epidemic enteritis is practically unknown, without any attempt to find whether other and less expensive measures would avail, or to separate mild from severe cases except in terms of cubic centimetres of sea-water plasma.

Statistics compiled from such sources will be very misleading and most unsatisfactory. The routine treatment adopted, and which proved efficient in 85 per cent. of my cases, was as follows:

(a) The stomach was washed out at the commencement of the illness, followed by complete starvation for twenty-four hours, except for frequent sips of luke-warm boiled water to each ounce of which had been added ten drops of brandy and 5 gr. of sodium citrate, the child meanwhile being carefully guarded from the cold.

(b) One drachm of oleum ricini was given either immediately after washing out the stomach or at the end of twenty-four hours and repeated in two hours, together with  $\frac{1}{8}$  gr. pulv. ipec. co. every four hours.

(c) The bowel was washed out with saline solution twice a day, and after the washings were quite clear half a pint of normal saline was given along with 1 ℥ tinct. opii, to be retained.

(d) At the end of twenty-four to thirty-six hours most cases could retain either whey or white of egg along with the boiled water as before, and at this stage oleum ricini could be administered in 3 to 4 ℥ doses every four hours, which acted in this way as an admirable astringent.

(e) After forty-eight hours, two to three drops of extract of malt were added to the whey or white of egg, and the boiled water and saline enemata continued.



(f) At the end of the third day the child could retain albulactin along with increased doses of whey and malt. No milk was given until after the tenth day, and was carefully sterilised.

(g) On the earliest signs of collapse a mustard bath was given and repeated if necessary.

If the oleum ricini is not retained, mercury in the form of grey powder or calomel  $\frac{1}{2}$  gr. doses may be given along with the minute doses of pulv. ipecac. co., and repeated every two hours: while if the diarrhœa is obstinate, silver nitrate  $\frac{1}{2}$  gr. doses in dilute nitric acid by the mouth every four hours frequently acts as an efficient remedy.

It is satisfactory to note that some of the most serious cases responded rapidly and permanently to this treatment, and more particularly as on several occasions permission to inject either sea-water plasma or saline solution has been refused by the parents in cases which seemed most urgently requiring such remedies.

(2) The morbid conditions present in cases resisting such treatment are persistent vomiting and diarrhœa with profound toxæmia and collapse, evidence of which is found in the depressed fontanelle, sunken glazed eyes, loose, inelastic folds of skin, cold, livid extremities, and slow, laboured respiration. These collapsed infants pass very little, or it may be no urine at all, and I attach great importance to this fact.

In cases of epidemic diarrhœa the amount of urine passed daily is a reliable index of the severity of the toxæmia, as well as of the progress which the infant is making towards recovery, while actual suppression of urine is the presage of impending dissolution.

Frequently there is difficulty in eliciting evidence of anuria from the mother, who is misled by the copious and watery stools.

Anuria is the key to the moribund condition of the infant with epidemic diarrhœa, and is caused by a lowering of the general blood-pressure, and more especially of the blood-pressure in the kidneys, so that they refuse to observe their function.

Briefly, it is a toxæmia resulting in low blood-pressure and anuria, which, in turn, produces an accumulating toxæmia with collapse and death.

(3) According to Quinton, the mode of action of sea-water plasma depends upon the fact that all superior organisms had their primary environment in the sea, and have retained a blood-plasma, whose mineral constituents are identical with those of the original seas. He suggests that this original medium is necessary to all cellular life, and that it is changed and deteriorated in certain affections, prominent among which is acute epidemic diarrhœa in infants.

It is further maintained that the subcutaneous injection of diluted sea-water alone corrects the morbid conditions of the medium, and that forthwith the organism and its cellular activities enter upon a new lease of life. This may be correct under conditions when sea-water plasma can be continued over a period of time as in cases of marasmus or psoriasis. No such conditions obtain in epidemic diarrhœa. I am convinced that the immediate response to the injection of sea-water plasma or normal saline solution, or sterile water as the case may be, is not due to any particular or isolated constituent of the fluid, but rather to an increased blood-pressure. The raising of the blood-pressure promotes an increased secretion of urine and the consequent passage of a large quantity of the accumulated toxins acting adversely upon the functions of the organism. The evidence of this is that almost simultaneously with the injection of fluid there is a copious flow of urine, absence of signs of collapse, and within a few hours vomiting and diarrhœa have ceased.

In the table appended will be noted the case of an infant who was injected while in a moribund condition with 30 c.c. sterile water, and recovered. Further injections were recommended but were disapproved of by the parents.

(4) The comparative therapeutic value of sea-water plasma and saline solution in epidemic diarrhœa cannot be fully estimated at the present moment. Experience in the use of sterile water and saline solution shows that the organism responds, not more rapidly, but somewhat more permanently, to normal saline solution than to sterile water. This becomes more evident when hypertonic saline solution is used, and must be attributed to the saline constituents present in the injected fluid. It is possible, therefore, that further experience may demonstrate that the saline constituents of sea-water, being in the natural state, have a still more permanent action upon the animal organism.

To the infant dying from an accumulating toxæmia it is of vital moment that measures should be adopted, not necessarily of permanent therapeutic value, but which will rapidly raise the blood-pressure and hasten the passage of these toxins. For this purpose both saline solution and sterile water have proved highly efficacious. Of my cases resisting ordinary measures, 12 per cent. recovered under injections of fluid. One case revived after an injection of normal saline solution, but subsequently died from broncho-pneumonia. Two uncomplicated cases died, in one of which injection was refused; the other died before the injection could be given.

In the table are recorded five cases of acute epidemic diarrhœa, in

Age.	Feeding.	Indications for injection.	Injections.	Result.	Remarks.
6 months	Artificial	Collapse, absent reflexes, and anuria	a. Sterile water, 30 c.c. b. Normal saline, 30 c.c. c. Sterile water, 30 c.c. d. Normal saline, 30 c.c.	Recovery.	First injection on third day of illness, 2nd on fourth, 3rd on sixth, and 4th on eighth.
5 "	"	Collapse, anuria, and wasting	a. Normal saline, 40 c.c. b. Sterile water, 40 c.c. c. Normal saline, 40 c.c. d. Sterile water, 40 c.c.	"	First injection on seventh day of illness, 2nd on eighth, 3rd on tenth, and 4th on twelfth.
11 "	"	Persistent vomiting and diarrhoea, anuria, absent reflexes	a. Sterile water, 40 c.c. b. Normal saline, 40 c.c. c. Sterile water, 40 c.c. d. Normal saline, 40 c.c.	"	First injection on third day; on fourth vomiting, diarrhoea, and anuria had disappeared.
7 "	"	Anuria and collapse	a. Hypertonic saline, 30 c.c. b. Sterile water, 30 c.c. c. Hypertonic saline, 30 c.c. d. Sterile water, 30 c.c.	"	First injection on the fifth day of illness.
4½ "	"	Persistent diarrhoea and collapse	a. Sterile water, 30 c.c. b. Normal saline, 30 c.c. c. Sterile water, 30 c.c. d. Normal saline, 30 c.c.	"	First injection on third day of illness; on fourth day collapse disappeared; diarrhoea ceased after 2nd injection.
3 "	"	Collapse, anuria, corneal reflex absent	Sterile water, 30 c.c. (one injection)	"	Injected on second day of illness.

each of which sterile water and normal saline solution were used alternately and in each case four injections were given.

The immediate effect of sterile water was the same as saline solution, viz. increased blood-pressure, disappearance of diarrhoea, collapse and anuria; but whereas the saline solution required repetition in thirty-six to forty-eight hours, the sterile water did not fully maintain the renal functions of the organism more than twenty-four to thirty-six hours without repetition. Because of a similar advantage, it would appear that undue importance has been attached to the superiority of sea-water plasma over normal or hypertonic saline solution in epidemic diarrhoea. Any advantages which the former may have in the way of permanence are fully compensated by more frequent injections of saline solution, and by the fact that it is within the reach of every practitioner and the poorest patients, while marine clinics and isotonic plasma are not.



## CONCLUSIONS.

(1) Collapse in epidemic diarrhoea is due to low blood-pressure and accumulated toxins.

(2) The results obtained from injecting fluid are increased blood-pressure and the passage of those toxins.

(3) The price of isotonic plasma prohibits its use among the poorer classes, while in saline solution we have a highly satisfactory substitute.

(4) Subcutaneous injections of saline solution should be resorted to on the earliest indications of collapse, and in the case of very young infants at the first visit, whether collapsed or not.

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A CASE OF NODULAR LEUKÆMIA.\*

By GORDON R. WARD, M.B., B.S.

FOR many of the details of this case I am indebted to Colonel Scanlan, who saw the child before admission to hospital, and to Dr. Mitchell, of the Royal Surrey County Hospital, who kindly afforded me every facility for examining the patient. I am also indebted to the Resident Medical Officer, Dr. Kerr, for much information.

The patient was a child, aged nearly 2 years. About six weeks before admission she had suffered from whooping-cough, and had not entirely lost the characteristic cough at the time of her death. There was no other previous illness of note. About the same time she was noted to be getting pale and had signs of rickets. She was treated for some time by Colonel Scanlan as a case of rickets, a diagnosis latter concurred in by Dr. R. C. Jewesbury. After a few weeks symptoms developed which seemed to be incompatible with this diagnosis—viz. swelling of the glands of the neck, slight exophthalmos, and an increased degree of anæmia. Colonel Scanlan formed the opinion that the patient was suffering from chloroma, and she was admitted to the Royal Surrey County Hospital on November the 6th, 1911. A few days before admission she had a severe attack of epistaxis and bruising in various parts of the body.

The notes on admission were briefly as follows: The patient resents any attempt to move her and lies curled up in bed. There is apparently tenderness of the epiphyses, and those of the radius and

\* Extract of a paper read before the Medical Section, Royal Society of Medicine, on April the 23rd, 1912.

nlna are thickened on both sides. There is beading of the ribs. The skin is waxen and the mucous membranes white. There is no obvious exophthalmos. The gums are swollen and bleeding freely. Tongue very furred. Heart and lungs normal. Abdomen protuberant, liver one finger's breadth below the costal margin, spleen not palpable, but this may be due to the fact that palpation seems to be productive of considerable pain, and so has not been persisted in. Enlarged glands in both groins. Purpuric spots on legs. There is a blood-stained discharge from the nose and slight discharge from the ears.

Between this time and the occasion—about two months later—on which I saw the child, there seems to have been a succession of septic troubles, progressive enlargement of the glands in the neck, and increasing anæmia. A blood-count made a month after admission and about the same time before death was as follows. It was made, from specimens sent to him, by Dr. Alex. E. Gow :

Red blood corpuscles . . .	1,950,000 per cubic millimetre.	
Nucleated red blood corpuscles . . .	235 per cubic millimetre.	
White blood corpuscles . . .	10,000 per cubic millimetre.	
Polymorphonuclears . . .	4200 per cubic millimetre, or 42 per cent.	
Eosinophiles . . .	130 per cubic millimetre, or 1·3 per cent.	
Small mononuclears . . .	5300 per cubic millimetre, or 53 per cent.	} 56·6 per cent.
Large mononuclears . . .	360 per cubic millimetre, or 3·6 per cent.	
Poikilocytosis and polychromatophilia well marked.		

The percentage of mononuclears is high, but the total number not higher than one may reasonably expect at that age ; moreover, the child was suffering from whooping-cough, a disease which may of itself give rise to a leucocytosis as high as 100,000 per cubic millimetre. In view of the later finding of lymphæmia this presence of whooping-cough is of interest as a possible ætiological factor, but probably the interest is more apparent than real. The right pre-auricular gland was the first to enlarge of those about the head ; this has been noted in other cases. On more than one occasion the glands threatened to suppurate, but this—although recorded in some cases—did not actually occur. There were, of course, abundant septic foci which might have led to breaking down of the glands—viz. middle-ear disease, conjunctivitis, purulent rhinitis, and extensive oral lesions. The glands in the neck reached a very large size, and the skin over them was discoloured and appeared greenish. This is not to be wondered at, as most of them were the seat of hæmorrhages of varying extent. Other features were the presence of sub-conjunctival and other hæmorrhages and of a greenish infiltration of the scalp. The green colour of the latter was not noted post mortem, and some, at least, of the apparent infiltration was cedema over the

skull-nodules found in that situation. These never reached a great size and were not distinguishable during life. One of the most interesting features was the sudden appearance of several small skin-nodules in the scalp. These were of the same colour as the surrounding skin and lasted only a few days. There was also a rash on the back. It is not certain of what nature this was, but a rash has preceded the appearance of nodules in several cases.

The writer did not see the case until three days before death. The notes then made were as follows :

The patient looks extremely ill and lies in bed with the legs flexed, and objects to any attempt to move her, which seems to cause pain. The examination was considerably hindered by the pain, as there seemed no adequate reason for distressing the child in order to elucidate points that were so obviously likely to be apparent in a few days from a post-mortem examination. The colour of the face was yellowish-green, and this was even more marked over the glandular swellings in the neck. The scalp was not green, but slightly cedematous. The gums were swollen and bleeding. On such parts as could be seen small lymphoid nodules were plainly visible. The nose was not clear, and there appeared to be a bloodless discharge from it. The eyes were hardly, if at all, prominent; the pupils were normal. It was not possible to get a view of the fundi. There was a small recent hæmorrhage at the outer canthus of the left eye and a larger subconjunctival one on the same side. The eyelids were swollen and nearly hid the right eye. From both conjunctival sacs there was a slight discharge. The ears appeared to be normal but it was not possible to get a good view of the drums. The child was apparently not deaf.

On both sides of the neck were swellings obviously due to enlarged glands; these were largest on the right, the side on which they first appeared. The individual glands were discrete in places, but in others appeared to be matted together. There were two swellings which it seemed were possibly connected with the bone, but this was subsequently discovered not to be the case. The first was situated just below the ramus of the jaw on the right side, and the second was in the left parotid angle and caused some difficulty in opening the mouth. All these swellings were moderately hard, and the skin over one of them was somewhat red. In both axillæ were several small hard glands about the size of peas. It was not possible to palpate any glands in the groin. There were three purpuric spots on the back, but no others except those mentioned near the eye. The liver and kidneys defied palpation, but the apex of an enlarged



spleen could be felt to strike the hand at about the level of the umbilicus.

There were crepitations and râles over the whole of the front of the chest; the back was not examined. The pulse-rate and temperature were both elevated. The urine was of a yellowish-green colour, and contained a deposit of phosphates. It did not contain albumin, and this had been noted only once since admission. The patient had gained weight during the last week—a feature of Hall's case. In his case this increase in weight coincided with a diminution in size of the tumours and of numbers in the lymphocytes.

#### POST-MORTEM EXAMINATION.

This was made on the third day after death. There was little or no post-mortem decomposition and no discoloration of the skin beyond that due to ante-mortem hæmorrhages.

The lungs showed extensive œdema and in parts patches of broncho-pneumonia. They were very pale. There was slight general enlargement of the bronchial mediastinal glands, but the thymus was not identified, and was certainly not hypertrophied. The pericardium was normal. The left side of the heart was very markedly hypertrophied, and there was patchy fatty infiltration, but no definite tabby-cat striation. There was a little stringy white clot in the heart.

The intestines were healthy to the naked eye, except that in the colon there were minute dark-coloured specks which seemed to represent hæmorrhages into the smallest lymphoid follicles. All the mesenteric glands were enlarged to about the size of a cob-nut, and most of them were the seat of hæmorrhages. The liver was enlarged and reached at least two inches below the costal margin. It was pale and slightly fatty, and contained many well-marked light areas.

The spleen was considerably enlarged and dark red in colour. The cut surface presented a homogeneous appearance.

The kidneys were both enlarged, and were alike in being the seat of extensive changes. They were mottled with white and red in spots and streaks of all sizes, and the surface was rendered irregular by hæmorrhages into their substance and by nodules of growth.

Only one of the adrenals was found, and this was white on section, and the differentiation between cortex and medulla was not seen.

Other than those already mentioned only the lymphatic glands of the neck showed marked changes. These were very much enlarged,

were not green in colour, and were the seat of hæmorrhages. All the lumps about the head and neck noted during life were due to glandular swelling. The glands in the axillæ and iliac regions were small and harder than those in the neck. There was no excess of lymphoid tissue at the posterior aspect of the tongue, but there was a small mass of lymphoid tissue on either side of the epiglottis. These were of a dull olive-green colour, but this colour had disappeared the next day.

On removing the scalp there was revealed a very striking condition. The major portion of the frontal and parietal bones was covered by a number of flat sessile tumours, which cut as if they were thickened periosteum and stripped off with the periosteum when it was removed. Most of them were the sites of hæmorrhages. These tumours were no doubt responsible for some of the apparent thickening of the scalp noted during life, when there was, however, no suspicion that there were definite nodules in this position.

The inner aspect of the same bones presented a similar appearance, and there were also nodules of growth in the middle and posterior fossæ. Besides the actual nodules, of which the majority were flat and sessile, there was a diffuse thickening of the dura mater, particularly marked about the torcular Herophili and the venous sinuses generally. This appeared to be of a more fibrous consistency than the nodules. When the dura was stripped off it took all the nodules with it, nor was it difficult to strip except at the sutures. The underlying bone was left covered with spicules divided from each other by fossæ of varying depth and size.

There was neither discoloration nor tumour of the brain itself. There was excess of the cerebro-spinal fluid but no œdema of the meninges. The diploë showed a very thin layer of red bone-marrow. That of the sternum was of a similar colour, and was only present in small nodules which seemed to represent centres of ossification. That of the femur was darker in colour. As it had been difficult to obtain permission for an autopsy, it was considered inadvisable to examine any other bones.

Slides were made from the following organs: glands, lymphoid tissue about epiglottis, skull-nodules, liver, kidney, adrenal, heart, marrow, dura mater, and spleen. These slides were made by just touching the cut surface of the organs with a clean slide, care being taken not to exert any pressure in a direction likely to give rise to smearing. These "contact slides" allow of a much more useful examination than the usual "smears." In all cases there was seen an excess of cells of a type identical with those of the

blood. In many cases there were masses of white cells, showing that foci of lymphoid proliferation had been cut across.

Sections were also made of these tissues and will not be described in full, as they varied in no important particular from other published descriptions. They may be briefly summarised as follows :

*Glands.*—These showed the normal structure of a lymphatic gland in a state of extraordinary activity. The sinuses were packed with cells and the various zones of the glands obliterated by the excessive proliferation of cells. They contained a minimum of fibrous tissue.

*Lymphoid tissue from the epiglottis.*—This showed a similar appearance to that of the glands.

*Spleen.*—This also showed an appearance roughly comparable to that of the glands, but there was more fibrous tissue and some proliferation of endothelial cells, with signs of blood destruction in the presence of pigment-granules and phagocytosis of red cells.

*Liver.*—The perivascular infiltration was well marked, and the white areas referred to were seen to be due to collections of white cells similar to those in the blood.

*Kidney.*—This showed many changes. Cloudy swelling and infiltration with lymphocytes, here and there definite nodules. The glomeruli were not especially affected nor the areas around them, but on the whole the kidney was the seat of denser infiltration than any other part of the body.

*Heart.*—This showed no lymphoid foci in the sections, but one such was apparent in a contact slide.

*Marrow.*—No section made ; contact films showed enormous numbers of cells identical with those in the blood.

*Dura mater.*—The nodules were seen to be growing mostly from the superficial layers. No connection traced with the deeper layers.

*Skull nodules.*—Similar to those of the dura mater.

#### BLOOD EXAMINATION MADE ON JANUARY 5TH, 1912.

Red blood-corpuscles	. 628,200 per cubic millimetre.
Nucleated red blood-corpuscles	. Four only seen after prolonged search ; of these one was a megaloblast, the rest normoblasts.
Megalocytes, of 100 cells measured .	15 per cent. (9 to 10 mm.).
Microcytes, of 100 cells measured .	11 per cent. (4 to 6 mm.).
Average size, of 100 cells .	7.49 mm.
Poikilocytosis frequent, but little polychromasia or stippling.	
Hæmoglobin .	. 15 per cent.
Colour index .	. 1.209.



White blood-corpuscles	52,350 per cubic millimetre.
Polymorphonuclears	676 per cubic millimetre, or 1·3 per cent.
Eosinophiles	52 per cubic millimetre, or 0·1 per cent.
Mast cells	52 per cubic millimetre, or 0·1 per cent.
Transitional leucocytes	624 per cubic millimetre, or 1·2 per cent.
Neutrophile myelocytes	52 per cubic millimetre, or 0·1 per cent.
Abnormal lymphocytes	50,894 per cubic millimetre, or 97·3 per cent.
Platelets	Almost <i>nil</i> .
Coagulation time (Mercier)	63 seconds.
Iodophilia	Absent.
Fibrin formation	Good.
Rouleaux formation	Normal.
Spectrum	Oxyhæmoglobin.

Among the "abnormal lymphocytes" the majority were about the size of an ordinary lymphocyte. The nuclei took up most of the cell and contained one to four nucleoli. The protoplasm was ragged and frayed in most cases. The larger cells were as much as twice the size of a lymphocyte and stained less deeply, the nucleoli being more pronounced and the protoplasm clearer. Beside these, every intermediate grade was seen and every variety of cell fragmentation and karyolysis of the nuclei. Mitosis was rare, only two quite unequivocal figures being seen, but there was a larger number of more dubious forms.

In fresh films of the blood one or two points were noted which are of interest. The fibrin formation was surprisingly good considering the hæmorrhagic tendency which the patient exhibited. The writer has noticed a similar anomaly in other cases of severe anæmia, and is inclined to attribute the hæmorrhagic tendency, not to deficient clotting, but to a deficient amount of red corpuscles. This means that the clot formed from any given volume of blood is not nearly so extensive or dense as a similar clot in a healthy person, in which case it is hardly to be wondered at that it does not satisfactorily close a bleeding vessel.

Rouleaux formation was as active as normal, but the resulting rouleaux suffered from the varying sizes of the corpuscles.

In a film ringed with vaseline and examined by dark-ground illumination and in the ordinary way there was seen an enormous excess of those bodies, which are grouped together as "blood dust," which is a conveniently expressive term, or hæmoconia—a scientific label which we owe to Müller. On closer examination these were seen to be abnormal not only in number but in size. There were the usual minute granules only visible with the dark-ground illumination, but in addition there was a vast multitude of granules

about the size of those of eosinophile cells. These were aggregated into chains and groups and had all the appearance of cocci. They did not, however, stain with methylene-blue or Giemsa and were similarly refractive to Sudan III and osmic acid. They must have been present in the blood when it was drawn or very soon after, as they were quite plain in a slide fixed with iodine vapour for the determination of iodophilia. They did not in the least resemble platelets or the *débris* from their disintegration. The writer has observed such granules in another case of nodular leukaemia, but in this case they were within the cells and some of them seemed to stain slightly with osmic acid. Presumably the granules in both cases were but little removed from those which cause the green colour of chloroma. That this colour is present in the blood has been obvious in some cases. They are probably the expression of some variety of degeneration, perhaps particularly apt to occur in primitive cells but also present in pus in some cases.

The above case is the third recorded case simulating "chloroma" clinically but without green colour of the growths.

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## A CONTRIBUTION TO THE STUDY OF APPENDICITIS IN CHILDREN.\*

By ALEX MITCHELL, M.A., M.Ch.,

*Assistant Surgeon, Aberdeen Royal Hospital for Sick Children.*

MR. PRESIDENT, LADIES, AND GENTLEMEN,—In contributing to the subject of this discussion, "The Treatment of Appendicitis in Children," I propose to limit the scope of my paper to the consideration of a special class of acute cases, those in which the disease had extended in an unmistakable manner beyond the confines of the peritoneal covering of the appendix, resulting in gangrene or perforation with varying degrees of peritonitis and pus-formation.

During recent months there has appeared in medical literature a considerable number of articles dealing with the subject of acute appendicitis, and emphasising the need of early surgical treatment, particularly in the case of young subjects, in whom especially, most writers are agreed, the disease is liable to be found in its most treacherous and fatal forms. It seems, therefore, that some benefit

\* A paper read before the Aberdeen Medico-Chirurgical Society on April the 4th, 1912.

might be derived from the study of a number of consecutive cases in which the initial treatment varied greatly in each case, but at some time in all cases the patient was brought to the Sick Children's Hospital and subjected to surgical treatment.

In this series are forty cases.

The youngest patient was fourteen months old and the oldest thirteen years. The average duration of the illness was, as far as could be ascertained, five days, but in a considerable number of cases two or three days had elapsed before medical aid had been called for. Nausea and vomiting were not prominent symptoms in all cases, but in, I think, every case, abdominal tenderness and rigidity were present in some degree at some stage of the illness. In only about 6 per cent. of the cases there was a definite history of a previous attack, but in a much larger proportion a history of previous continued "stomach-ache" was afterwards obtained.

The conditions found at operation may be best appreciated by dividing the cases into four main groups.

In nine cases there was a large abscess walled off and directly accessible by incision through the abdominal wall. In one of these cases, although the abscess was apparently completely walled off, and was at the time of operation regarded as such, the patient died six days after from a diffuse septic peritonitis. Another case developed a faecal fistula, and then showed marked signs of intestinal obstruction. An attempt to relieve this condition resulted in the death of the patient. In a third case, in a poorly nourished child of fourteen months, the abscess was opened by aid of local anaesthesia and drained, but the child never regained his vitality and died a fortnight later. The other six cases recovered, and five of them were afterwards subjected to further operation for removal of the appendix, which was found worthy of attention in every case. Several had some degree of ventral hernia, which was cured at the second operation.

In five cases of localised abscess the peritoneal cavity had to be opened up before the abscess was reached. In three of these cases there was a small collection of pus round the appendix in a retro-caecal or retrocolic position. These three cases were operated on after the subsidence of the first acute attack. Another case in a child of five years old was operated on in the acute stage of its third attack. Here a collection of pus was found confined to the area about the base of the caecum by a mass of omentum which was evidently becoming gangrenous. In the fifth case, operated on in the fourth day of his illness, there was found at the brim of the



pelvis a collection of pus about the size of a small tangerine orange. This case progressed most favourably for some time, but required a second operation for a subphrenic abscess, which was opened and drained by the transpleural route. The patient died thirty-six days after admission and seven days after his second operation, and was thought before death to be suffering from septic endocarditis. No autopsy was permitted. The other four cases in this group made uneventful recoveries.

In the remaining twenty-six cases no definite adhesions were found shutting off the appendicular area from the rest of the peritoneal cavity, and here classification is more difficult as the difference is only a question of degree of a spreading infection.

In eighteen cases the condition was noted as a spreading or diffuse peritonitis with gangrenous appendix with one exception, in which a diffuse peritonitis was found, but the appendix, which was removed, did not show any gross lesion. This case had all the appearances of a pneumococcal peritonitis, but on culture the pus was found to contain a streptococcus along with the *B. coli*, the organisms most frequently found in peritonitis of appendicular origin. Post-mortem examination did not reveal any intestinal perforation or other lesion to explain the peritonitis. I regret that I had no microscopic examination made of the appendix. Six of these cases died, three within twenty-four hours of operation. One case, suffering from marked bronchitis on admission, developed a septic pneumonia, and another a localised empyema, but both recovered. Several of the cases that recovered required further treatment for ventral hernia.

In the remaining group are included eight cases in which the appendix was gangrenous, but there was little or no appearance of peritonitis—an indication that the disease was less advanced than in the previous group. All these cases recovered. The average duration of illness was under forty-eight hours, as compared with five days, which was, as far as could be ascertained, the average period of illness of the whole series.

Taking all these cases together we have forty cases with ten deaths, a mortality of 25 per cent., or one in four, while of those that recovered several required a second operation and some suffered from dangerous complications. On the other hand, in all the cases operated on over the same period of two years in the acute stage, before the infection had visibly extended beyond the peritoneum of the appendix, no life was lost. (These non-suppurative cases are of course not included in this series.)

The method of operation was similar in each case. Except in

localised abscesses, reached directly by abdominal incision, the appendix was removed, the uninfected areas of peritoneum being, where possible, packed off, and any free pus carefully mopped up, care being taken not to injure the peritoneum, and particular attention being given to the pelvis and to the kidney pouches. With one exception, ether, with a little chloroform in the initial stages, was the anæsthetic used, and no complication was traceable to the anæsthetic. In most cases a simple enema was given before operation, and salines (with glucose and soda bicarbonate) were given continuously, or at intervals of two or three hours for the first twenty-four hours after operation. Drainage was employed in all except three cases, in which there was practically no sign of peritoneal infection. In two of these cases the wound had to be opened up and a small drain inserted. In all cases where there was an appreciable amount of peritoneal exudate the pelvis was also drained by a Keith's glass drain, into which a fine rubber tube was inserted and connected with a Cathcart's apparatus. Morphia was not given as a routine after operation, but in a few cases where it was thought to be specially called for.

From a consideration of these cases alone it must be admitted that appendicitis in children is a dangerous condition, and at the same time a deceptive one, inasmuch as it is very difficult to determine the stage at which the disease is in any given case.

While a number of cases will get better without operation, reaching as they do no further than the catarrhal stage, experience of several cases in a more advanced stage brings home to one clearly that when the infection has got beyond a certain stage the disease will advance rapidly and kill the patient, except in a small proportion of cases where the patient's resistance is sufficient to produce a firm barrier round about the appendicular area, resulting in the so-called "appendix abscess." This condition, although immeasurably preferable to a wide-spread peritoneal infection, is not without its dangers, especially in young patients. Also in dealing with children it cannot be too strongly emphasised that they are not good subjects for acute septic infection of the peritoneum, and that they are very liable to the various undesirable sequelæ. Moreover, in very early life the appendix is often in a high position in the abdomen, and, as adhesions are not readily formed, the peritonitis from the first is liable to be fairly diffuse and to involve the peritoneum of the upper abdomen—a condition which is more serious than when the pelvic peritoneum is alone the seat of the infection.

The question then arises—Are we, as clinicians, in a position to say definitely at the outset, “This is a case that will subside if left alone” or “This is a case that cannot do well, but demands immediate operative treatment”? In adults it may be urged with some show of reason that we can distinguish, but even here it is questionable if we ought to rely too strongly on our judgment on this point, and in young children I am convinced that the safest course to pursue is not to be too confident of one’s power of estimating the exact condition of the appendix.

I have refrained as far as possible from wearying you with detailed clinical histories, but in many of the worst cases, hours or even days were allowed to elapse by careful and experienced clinicians because the general or local signs did not appear to be so severe as to demand operation, and in many of these cases the extent of the mischief was never truly estimated until the abdomen was opened.

From the foregoing it is not to be inferred that a careful clinical examination should not be made, but that it should be thorough and repeated at frequent intervals so that a definite diagnosis of the disease can be made at the earliest stage of its course. In this way only can we hope to intervene in every case before pus has formed, although this ideal cannot always be attained, as in a certain proportion of cases operation was done within a few hours of the first visit of the medical attendant and free pus was found, so rapidly was it formed in many cases. I would again urge that morphia should never be used in the treatment of these cases, as a dose sufficient to alleviate the patient’s suffering will entirely change the clinical picture without in any way arresting the progress of the infection. If the patient is to be transported several miles to hospital, it is a good plan to give an appropriate dose of morphia, as by so doing we can make his journey comfortable and greatly diminish shock, but this should be done only after the diagnosis has been made and the line of treatment decided on, and never in doubtful cases sent in for observation. In every such case a note should accompany the patient detailing the abdominal condition prior to the administration of the drug. In early and doubtful cases phenacetin or aspirin will help to soothe the patient and will not mask the symptoms. The patient should be put at once in the Fowler position, and rectal salines, preceded by a simple enema, administered, all food by the mouth being withheld.

An appreciation of the difficulty of early diagnosis in these cases and of the high mortality and morbidity with which they are



associated, along with the hope that they may be an incentive to some profitable discussion, is the motive for putting before you these facts, and the conclusions which appear to us, at least, to be correct ones to draw from them.

In conclusion I wish to express my gratitude to Mr. Gray for his invaluable advice and encouragement in the treatment of the large proportion of these cases that fell to my lot and in the preparation of this paper.

### HERPES ZOSTER BY CONTAGION.

By SOLON VERAS, M.D.,

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THE contagiousness of herpes zoster has given rise to much discussion. Some authors (Klaimann [1], Millon [2], Paggi [3], and recently Cruchet) [4], have published cases of herpes zoster transmitted by contagion, but these cases are not very numerous.

I have therefore thought it would be interesting to record the case of two children of the same family living in the same house, and affected with herpes zoster at six days' interval, from which one may conclude that contagion played the principal part.

On March the 20th, 1912, I was called to see a little girl, aged 6 years, who had a temperature of  $103.3^{\circ}$  F., and presented an eruption on the abdomen; these symptoms the family thought to be chicken-pox, such an epidemic existing at the same time in Smyrna.

The eruption was semi-circular, starting from the left lumbar region, and was visible on the abdomen along a line about two inches from the umbilicus. The character of the eruption was erythematovesicular. There was no other eruption whatever on the whole body. The child presented no other symptom besides the fever and the eruption; she was cheerful, and did not complain of any pain.

The eruption appeared on the abdomen as little red patches mixed with papules; only on the back towards the lumbar region a little group of vesicles was noticed. This is characteristic of herpes zoster in its different stages of evolution.

A solution of picric acid of 1:100 was applied, and the child was put on milk diet. No medicine was given, except a mild laxative, the child having always been subject to constipation.

The zoster ran its course for a day more, a few more papules becoming vesicles, and then all the symptoms gradually vanished; when the vesicles were dry the eruption was sprinkled with a mixture of zinc oxide, talc powder, and starch. The temperature gradually fell and became normal on the fifth day. On the sixth day the patient refusing to take the milk, some farinaceous food was allowed. The urine was clear and contained no albumin. Some small crusts still covered the dry vesicles. On the very same day the existence of a similar eruption was noticed on the patient's younger sister, a child three years old, who for the last three days had had a slight fever with nasal discharge and some cough.

The localisation of this eruption was identical with that of her sister, but the symptoms were less marked (three or four vesicles only), and disappeared without causing any complication. Both the children were rather anæmic, having often suffered from gastro-intestinal disturbance. There was no specific or tuberculous heredity.

It should be added that in the same family there was another girl, nine years old, who, although not isolated, was not infected. Two other young ladies, aunts of the children, and living in the same house, never presented the slightest symptoms of a similar eruption.

If, therefore, there was contagion, it only took place between these two children, although all the other members of the family lived together and did not take any particular precautions against infection.

Can we admit, however, that the appearance of these two cases of herpes zoster, occurring about the same time, was due merely to coincidence?

I am naturally inclined to think that a direct contagion infected the second child, who had probably a particular predisposition for it, as the contagion of herpes zoster may be rather slight. A similar observation has been made by Millon, who noticed contagion between only two children out of five of the same family, all living together in the same room.

Can we establish here any relationship between these two cases of herpes zoster and the epidemic of chickenpox existing at the same time in Smyrna?

J. von Bokay [5], in an interesting paper, tried to prove the existence of an ætiological relationship between herpes zoster and chickenpox, but this view does not appear applicable to the present case, no chickenpox having been noticed in the family at this time.

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## The Royal Society of Medicine.

### EPIDEMIOLOGICAL SECTION.

*March the 22nd, 1912.*

**Relation of Housing to the Isolation of Scarlet Fever and Return Cases.**—Dr. MILES ARNOLD stated that 2192 cases of scarlet fever were investigated with regard to the relation of housing to isolation of scarlet fever. These cases occurred in 1976 houses, and 1529, or 57 per cent., were removed to hospital.

Of the home-treated, 72.5 per cent. occurred in houses in which there was less than one inhabitant per room, and there were 1.05 susceptible persons per house remaining, while only 36.2 per cent. of the hospital group came from houses in which there was less than one inhabitant per room, and as many as 2.01 susceptible persons were left behind.

Incidental cases, *i. e.* those beginning between seven days after the isolation of the invading cases and before the release from isolation of the patient, occurred in 1.5 per cent. of the susceptible among the hospital group. On the other hand, as many as 10.2 per cent. were recorded in the home series. In the hospital class, where the population is from 1 to 1.5 per room, there was a percentage of 1.3 incidental cases, whereas under similar numerical conditions among the home group the high percentage of 13.4 was reached.

The 663 treated at home were followed by 11 recovery cases, or 1.7 per cent., or 1.8 if reckoned on the 586 susceptible persons.

There were 98 return cases among the 2692 susceptibles (*i. e.* among the 2736 minus the 44 incidentals), a percentage of 3.6.

The larger the number of persons living in each room the higher was the percentage of return cases, the actual figures being 3.6 per cent. in houses with less than one person per room, and with more than 1.5 persons per room the figure was as high as 10.1.

In the hospital group 5.1 per cent. of the susceptibles were infected, while in the home-treated group 11.7 susceptibles were attacked. So that the hospital cases, though in less favourable homes, infected less per case than the home isolated patients. Comparing the home conditions in the two groups, among the hospital cases with under one inhabitant per room, 4.9 per cent. of susceptibles were infected, contrasting favourably with a figure of 9.3 among the home group.



**Société de Pédiatrie, Paris.**

*April, 1912. (Bulletin No. 4.)*

**Bromide Rashes in Infants.**—Dr. J. COMBY related the case of an infant, aged 6 months, whose mother, while nursing it, was taking 15 gr. of bromide of potassium daily. The child had a papulo-scaly eruption which had resisted all treatment but subsided rapidly when the mother ceased taking the medicine.

**Pleural Gurgling in a Child aged 8 years.**—MM. VARIOT and MORANCÉ.—The view that this kind of bruit took place in a loculated pleurisy, the gurgling being the result of fluid and gas passing from one compartment to another, was corroborated by radiography. There was a clear zone, which seemed to be a space containing air, 4 to 5 cm. in diameter in the neighbourhood of the angle of the left scapula. The fluid formed an opaque horizontal line marked out distinctly against the clear space above it. The level of this fluid could be displaced by inclining the trunk. The bruit disappeared although the radiosopic image remained unchanged. This could be explained by the closure of the perforation between the cortical pulmonary parenchyma and the pocket of air. The clear patch disappeared later.

**Sydenham's Chorea with Organic Nervous Symptoms.**—MM. H. GRENET and P. LOUBET reported the case of a girl, aged 8 years, with chorea, who showed hypotonus, Oppenheim's sign, and the sign of combined flexion of the thigh and trunk. The authors consider these signs of more value than adiadochokinesis, or disturbances of tactile sensation and asymmetry.

**Chorea and Infection.**—M. ROUX reported the case of a boy, aged 11 years, who passed successively through tonsillitis, colitis, subacute rheumatism, chorea, and asthma. The author discussed the question whether all these different phenomena were not caused by one agent, viz. Koch's bacillus.

**Scoliosis and Pleurisy.**—M. ROEDERER showed a girl, aged 8 years, the subject of slight spinal curvature following empyema.

**Stenosis of Larynx.**—M. ABRAUD reported the case of a boy, aged 5 years, suffering from laryngeal stenosis following diphtheria, which he was able to treat by a method rendered possible by direct laryngoscopy. By means of a special forceps he was able to remove the vegetations from the vocal cords and obtain a rapid cure.

**Rapid Death following Operation, coincident with Hypertrophied Thymus.**—M. GUIBÉ reported the case of a boy, aged 17 months, who died suddenly about twenty-four hours after an operation for double inguinal hernia.

Mme. NAGEOTTE discussed the question of isolation of brothers and

sisters of children suffering from infectious diseases and alluded to Dr. Milnes's methods.

M. LEROUX gave statistics of mortality from contagious diseases at St. Joseph's Hospital and attributed its low figure to the absence of children under three years of age and to the peculiar social conditions of the patients.

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**The principles of the reduction of infant mortality** (*New York Med. Journ.*, 1911, II, p. 1067).—**S. Josephine Baker** believes that the material decrease in the infant death-rate in the past thirty years, and particularly during the past year, in New York City, has been due to the great educational campaign that has been carried on for many years, culminating in the direct efforts of the past summer. The principles involved in the reduction of infant mortality she considers to be these: (1) the need of public opinion, the awakening of civic consciousness, stimulation of the people to demand that the civic forces shall be so adjusted and co-ordinated that the babies may be allowed to live instead of forced into illness and doomed to death. (2) The study of the problem of the institution baby: during 1911, up to October 1st, 42 per cent. of all deaths of babies under one year in the borough of Manhattan had occurred in institutions. (3) A supply of safe milk at a price within the reach of the majority of the people. (4) The broadening of courses in pædiatrics in medical colleges. (5) The interest and attention of social students and workers, and of philanthropists, in meeting individual family needs and adjusting economic conditions. (6) Instruction of each mother. (7) A right understanding of the immediate causes of infant mortality. Application of these principles had caused a great fall in the death-rate, especially during the last summer, when they had been most efficiently used. For future achievements the writer suggests a more comprehensive programme. (1) A campaign of educational publicity which will reach both the public and the individual mothers. (2) More strenuous efforts in the direction of reducing the death-rate from congenital causes. The obstetrician should insist that the mother place herself under his care and follow his directions during the entire period of pregnancy. To overcome the abnormal death-rate from congenital causes there must be (a) proper education and control of midwives; (b) classes for, and supervision of, pregnant women; (c) a form of insurance which will provide a stated payment for women for at least one month before and one month after confinement; (d) co-operation of philanthropic agencies to provide proper food, hygienic surroundings, and freedom from anxiety for the pregnant woman. (3) The question of institution care *versus* the placing-out system must be practically worked out. (4) It must be realised that infant mortality is a year-round problem, and must be dealt with in winter as in summer.

FREDERICK LANGMEAD.

**The influence of milk station work on the reduction of infant mortality** (*New York Med. Journ.*, 1911, II, p. 1065).—**G. R. Pisek** gives certain statistics on this subject obtained from observations in the city of New York during the summer of 1911. There were seventy-nine stations at the beginning of last summer. An organisation known as the Association of Infant Milk Stations was formed to secure effective co-operation between the different agencies working to reduce the infant death-rate. This association on July 1st had an enrolment of 5932 babies; by the end of July this had increased to 9888, and a month later to 11,702. The milk station was not primarily a place for the distribution of modified milk, but for the education of the mother. The station doctor and the nurse were the important factors. The intimate contact of the nurse with the mothers in their homes made it possible to teach them how to modify bottled milk in their own homes according to instructions. The milk supply was an excellent raw product, and was preserved from deterioration in the homes by simple home-made refrigerators. The mothers were taught the value of breast-milk. They were also taught to recognise the danger signals of summer diarrhoea and the need for immediate action. The number of deaths of infants under one year from all causes during the first nine months of 1911 was 11,733, compared to 12,920 for the corresponding period of 1910—a decrease of 17·7 per mille. This meant the saving during the year of 1640 babies. During June, July, August and September there were 1244 fewer deaths in 1911 than in 1910. Studying deaths from diarrhoeal diseases alone under one year of age in the borough of Manhattan, from January to June there was an increase of 28 per cent. over 1910, but after the milk campaign had begun in June there was a decrease of 50 per cent., in July 60 per cent., in August 23 per cent. and in September 25 per cent.—altogether a decrease in the death-rate of 41 per cent. A section of the city in which the influence of milk stations was established was compared to a similar section uninfluenced by them. In the former there was a decrease of deaths of 29 per cent. compared to 1910; in the latter an increase of 9 per cent.

FREDERICK LANGMEAD.

**Premiums for nursing mothers and milk dépôts for infants** (*Med. Record*, 1911, II, p. 805).—**Charles Hermann**, who has made a study of this subject in France and Germany, is of opinion that neither premiums for mothers nor milk-distributing centres are satisfactory. The money, he thinks, would be better spent by paying visiting nurses. He describes the method adopted at the Lebanon Maternity Hospital. While still in the hospital the mothers are instructed in the care and feeding of infants. Printed cards are given to assist the memory and also a card telling them to attend the Pædiatric Department within ten days after leaving the hospital, or sooner in special cases. If they fail to attend a post-card is sent to them, and if this meets with no response a visit is made to the home. Dr. Hermann emphasises the following points: (1) The importance of giving the mother instruction from the start. (2) Of fourteen deaths, seven occurred during the first month of life, and five of these during the first two weeks; therefore anyone who expects to see a drop in the infant mortality as soon as a milk dépôt is established is bound to be disappointed. (3) The milk dépôt should be established in connection with a hospital for treating babies who are ill. Breast milk should be provided in special cases. (4) From 75 to 80 per cent. of the mothers are able to give the breast for five or more



months. Few are too poor to buy bottled milk. It was unnecessary to distribute modified milk. (5) For the majority of cases one visit a month to the depôt is sufficient. The emphasis should be placed on breast-feeding and not on the distribution of cow's milk of good quality.

FREDERICK LANGMEAD.

**Is the milk of eclamptic mothers toxic? Case reports.** (*Arch. Pediat.*, 1912, xxix, p. 55).—**C. A. Frost** describes four cases, two confirming the opinion of Goodall that the milk in this condition is increased in toxicity, and two corroborating the observation that children born of nephritic mothers are of lowered vitality, and answers the question in the affirmative (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1911, viii, p. 227.—Ed.)

F. R. B. ATKINSON.

**Anaphylaxis to cow's milk; anaphylactic therapeutics** (*La Pediat.*, 1911, xix, p. 641).—**G. Finizio** reports four cases in the same family. In the first two (brothers) the father was alcoholic; both children were robust. In one case there was tuberculosis in the mother and collateral relations; the child was puny and weak, cuti-reaction negative. In one case the phenomena of anaphylaxis became evident only after cow's milk had been tolerated for two or three months. In one case 20 gm. of milk produced symptoms, in two 40 gm., and in one other 100–120 gm. Symptoms occurred not later than two to three hours after taking the milk, and were ushered in by vomiting and diarrhoea. In three of the cases there were hypertony, tetany and convulsions, in two cases a temperature 38°–39° C., and in one a tendency to hypothermia. The condition of hypersensibility lasted in two cases about six to seven months, one case died in two months, and one case had no further symptoms after two months. Investigations on the blood-serum during and after the attack showed evident precipitin reaction towards cow's milk and diminution of the complementary fever of the serum. In one case whey, obtained by chimosinic coagulation of the milk, was given in amounts of 100 gm. daily, and after four days there was no longer any anaphylaxis to whole milk. This seems to point to an immunising power in whey.

VINCENT DICKINSON.

**Anaphylaxis in its relation to pædiatrics** (*Amer. Journ. Dis. Child.*, 1911, ii, p. 39).—**G. R. Pisek** and **M. C. Pease** consider it very likely that a child may inherit its mother's sensitiveness to toxins, and points to Goodall's cases, in which the mothers of three children suffered from post-partum eclampsia and the children all died from symptoms exactly similar to an anaphylactic reaction. The authors also suggest that in many cases in which children fail to digest cow's milk, a sufficient amount of unchanged milk protein has been absorbed to cause hypersusceptibility. They also incline to the view that some of the severe types of convulsions may be anaphylactic in origin.

F. R. B. ATKINSON.

**Recent developments in pasteurisation of milk for a general market** (*Amer. Journ. Dis. Child.*, 1912, iii, p. 226).—**E. H. Schorer** holds the opinion, based on observations and the study of various pasteurising devices and the results obtained by them, that it is evident that the results derived in the laboratory cannot be transferred directly to the dairy. A routine of heating to 140° F. for twenty minutes,

whilst efficient in the laboratory, is not a safe one in the dairy. The safest method for pasteurising is in sealed bottles, allowing at least thirty minutes for heating to the temperature of pasteurisation, and then pasteurising at about 145° F. for thirty minutes—all done under official supervision. Laboratory men unacquainted with commercial conditions should refrain from advising on the new departure of pasteurising in the bottle, so that milk-producers and dealers will not needlessly have to expend as much money for these devices and systems as they have for pasteurisation devices in the past as a result of what they regard as expert advice.

FREDERICK LANGMEAD.

**Lactic ferment therapy** (*Riv. di clin. pediat.*, 1912, x, p. 218).—**G. R. Burlamacchi** describes his researches and experiments during six months at the infants' dispensary at Lucca. He finds that milk pasteurised or otherwise sterilised daily in small bottles of not more than 200 grm. capacity, to which is added one or more teaspoonfuls of acidogenous rennet, constitutes both a food and medicament for infants suffering from digestive disturbance. The acid medication obtained by the use of fermented milk is well tolerated, and is more effectual than that obtained by powders or tablets of lactic ferment in the dry state or by mineral acids. The coagulation of the casein commences in the bottle, and is more finely divided than that which occurs in the stomach after the administration of lab-ferment. The acidogenous ferments of rennet, moreover, produce in the bottle a partial peptonisation of the albuminoid contents of the milk, thus sparing the debilitated stomach. These ferments also stimulate quickly and effectively the digestive enzymes to greater secretive activity. The milk containing them is therefore useful in dyspepsia both of the stomach and intestines, and in cases of athrepsia and atrophy. VINCENT DICKINSON.

**Researches on the so-called galactogenic action of subcutaneous injections of milk** (*Lyon méd.*, 1912, cxviii, p. 161).—**Chatin and Rendu** tried Nolf's method in eight cases, giving thirteen injections and having thirteen failures. In eight instances the curve of milk secretion remained stationary or slightly lowered. In the five others there was a slight ascent noticed after the injections of milk, but always in association with other concomitant factors, such as change or increase in the number of nurslings suckled, a larger demand on the part of the infant during convalescence, a resumption of suckling after a short interruption, change of food and surroundings of the mother in the hospital. VINCENT DICKINSON.

**Infant feeding with undiluted cow's milk** (*New York State Journ. of Med.*, 1912, xii, p. 188).—**W. B. Hanbidge** describes sixteen cases of babies treated by this method after all other means had failed to relieve the diarrhoea and severe emaciation. The author finds that 1¾ to 2¼ oz. of undiluted cow's milk per pound weight in twenty-four hours is sufficient to nourish a child.

F. R. B. ATKINSON.

**Grave infantile atrophy** (*La Clin. inf.*, 1912, x, p. 135).—**P. Petit** relates the case of a girl, aged 2 months, admitted in a condition of extreme athrepsia with green stools and diarrhoea. She had been fed by bottle with scalded and homogenised milk and was then put to a wet nurse, but without success. Meningeal hæmorrhage ensued, which proved fatal. There were sclerosis and fatty degeneration of the liver, which seem to have been the

cause of the incurable infantile atrophy. When infants do not thrive on such diet an hereditary taint may be suspected, such as tuberculosis or syphilis, or a congenital malformation, such as stricture of the pylorus, etc.

VINCENT DICKINSON.

**Cyanosis in infants due to malnutrition** (*La Semana Médica*, 1911, xviii, p. 289).—**Enrique Foster** describes three cases of infants 15, 36 and 26 days old, who failed to draw sufficient milk from the breasts and were suffering from malnutrition. All three were brought for attacks of cyanosis. The whole body was cold, rectal temperature, 36·4 to 36·5 C., the respiration superficial with prolonged pauses. One child died, the two others recovered. Treatment must be applied to the general condition. The infant must be kept warm, and artificial feeding adopted, using, if possible, the mother's milk.

M. D. EDER.

**The ætiology of infantile diarrhœa** (*Austral. Med. Journ.*, 1912, i, p. 289).—**R. L. Forsyth** finds that over 80 per cent. of these cases show bacteria in the stools. They are of four kinds: (1) Resembling Shiga's bacillus found in dysentery; (2) a bacillus like Morgan's, which seldom causes agglutinin, and giving rise to a subacute trouble; (3) Gaertner-like organisms, causing a long chronic illness; (4) a peculiar class of bacilli, not previously described in this disease. It agglutinates but rarely.

F. R. B. ATKINSON.

**Cause and treatment of summer diarrhœa in children** (*Austral. Med. Journ.*, 1912, i, pp. 263 and 278).—**A. J. Wood**.—To prevent the disease the milk supply must be fresh and properly cooled if used raw. The bottles and nipples must be sterile and the slightest signs of vomiting or diarrhœa not neglected. If possible the children should be kept in the country in the hot weather. Children suffering from the disease should be kept as far as possible in the open air. Tepid baths may be used frequently, and if the temperature is high the bath should be graduated and cold cloths applied to the head. Scrupulous cleanliness is essential. The stomach should be washed out and a teaspoonful of castor oil put into the stomach; the washing out should be with boiled water and a teaspoonful of baking soda to the pint. The bowel should also be thoroughly cleansed. After this water for twenty-four hours should be given by the mouth, hot or cold. At the end of this time alternate bottles of rennet whey and boiled water should be given and return to milk should be made very gradually. The author finds no drugs of any use except opium, which should be given in sufficient quantities to relieve pain and check excessive peristalsis, but not to stop the motions and cause stupor. He generally orders for a child six months of age  $\frac{1}{2}$  minim of liq. opii sed. in a teaspoonful of water three times a day, with the proviso that there must be two motions between each dose, otherwise the dose is omitted. Brandy and whiskey may be given as stimulants, but should not be mixed with the food: 3j of brandy in 3v of water sweetened with sugar, 3j every two hours. Subcutaneous injections of saline are frequently of great service, half a pint into the loose cellular tissue of the back, chest, or abdomen, but not more than 5 oz. in any one place in a child of six months.

F. R. B. ATKINSON.

**Diarrhœa in breast-fed infants** (*La clin. inf.*, 1912, x, p. 65).—**G. Variot** prefers the old term "diarrhœa," for observations of a large



number of cases have led him to think that the bare conception of a gastro-enteritis is not an exact one in the majority of cases, but rather is harmful from a therapeutic point of view, for if we are content to try a local treatment for the enteritis, the real cause of the trouble is apt to be misunderstood, and by inopportune treatment and too prolonged dieting the mischief is intensified instead of cured. In the immense majority of cases it is not the infant who is at fault, but the fact that he is placed in relation with factors external to himself which disturb his gastro-intestinal functions. The author classifies the cases under the following heads: (1) *Diarrhœa caused by factors external to the infant*: (a) Summer diarrhœa. The author has given up the use of opiates, bismuth and astringents, and contents himself with giving rice-water, intestinal lavage with boiled water, injections of sea-water or artificial serum according to the gravity of the case. (b) Diarrhœa caused by over-feeding. (c) Diarrhœa from under-feeding. (d) Diarrhœa from modification of the fat and casein. In some cases there may be as much as 80 per cent. of fat in the mother's milk instead of 35-40 per cent. In such cases mixed feeding should be adopted with asses' milk. Excess of casein is rare, and as a rule the digestive organs of the infant adapt themselves to such a condition. (e) Diarrhœa due to toxicity of the milk (? caused by leucomaines). (f) Diarrhœa from toxicity of the milk in the course of various infections in the mother. (g) Diarrhœa caused by alimentary intoxication of the nurse, *i. e.* sausages, spiced viands, cabbage and spinach, alcohol. (2) *Diarrhœa of dentition*, either reflex from the dental follicles or associated with stomatitis. This is probably the only kind of diarrhœa due to causes imputable to the infant himself.

VINCENT DICKINSON.

**The clinical aspect of certain cases of infantile diarrhœa considered in relation to recent bacteriological work** (*Liverpool Med.-Chir. Journ.*, 1911, xxxi, p. 376).—C. Rundle and E. H. R. Harries have been impressed by the "typhoidal" course of many of the cases of children admitted for infantile diarrhœa into the City Hospital, Fazakerley. From several of these, the bacillus "F" (Orr, Stenhouse Williams, Leith Murray, Rundle and Williams) has either been isolated or agglutination reactions indicated its presence. The resemblance to typhoid, and more especially paratyphoid, was close. The onset was gradual, and associated with either diarrhœa or constipation. Vomiting was never a marked feature and was often absent. The main features of the temperature charts recalled those of typhoid or paratyphoid. Relapses occurred in approximately 10 per cent. Complications of a suppurative nature were relatively frequent, furuncles occurring in 12 per cent., and otitis in 7 per cent. Abscesses were not rare.

FREDERICK LANGMEAD.

**Intestinal intoxications** (*Liverpool Med.-Chir. Journ.*, 1911, xxxi, p. 362).—Owen T. Williams emphasises the importance of recent work on the physiology of digestion in relation to the study of intestinal disorders, and the significance of the liver as a safeguard against the poisonous products of metabolism, whether of fats, carbohydrates, or proteids. He gives a brief *resumé* of Herter's important work upon the intestinal flora at different ages, and in patients taking different diets, and of that author's division of intestinal putrefactive processes into the three types, indolic, saccharo-butyric, and combined indolic and saccharo-butyric. The fæces of a nursing contain abundant Gram-positive organisms, and thus differ

from those of bottle-fed babies, which contain chiefly Gram-negative bacilli of the *B. coli communis* group. After infancy a more varied dietary permits a greater variety of micro-organisms to obtain entrance to the intestinal tract. There are many simple tests which can be of service to the clinician. The reaction of the stool is of great significance. A diminished flow of bile into the bowel is often indicated by the perchloride of mercury test. A small portion of faeces is placed in a test-tube with a saturated solution of  $\text{HgCl}_2$ . Normally a pink colour results in a few hours, but is delayed for more than twelve hours in cases of diminished bile flow. Schlössing's method of determining the amount of ammonia in the urine is valuable. So is the test for indol-acetic acid to show abnormal protein cleavage. The addition to the urine of strong  $\text{HCl}$ , aided if necessary by a few drops of 1 per cent. solution of potassium nitrite, gives a rose-red colour. Microscopical examination of the faeces is of importance for the recognition of mucus, meat fibre, starches, or fats, and of leucocytosis. Staining by Gram's method gives a fair idea of the nature of the germs in the intestine. The author then gives a few examples of cases where the application of these methods of investigation, coupled with the knowledge afforded by recent work on digestion and the results of Herter's researches, suggested rational and successful treatment.

FREDERICK LANGMEAD.

**The intestinal infantilism of Herter** (*Am. Journ. Dis. Child.*, 1911, II, p. 332).—R. G. Freeman brings forward four fresh cases of this type of infantilism. In three of them the bacteriology of the faeces was examined by Herter and showed the conditions described in his original cases. The characteristics of this group are given by Herter as follows: (1) The child ceases to grow or to gain weight. (2) There are abdominal distension, moderate anaemia and marked fatigue. Attacks of diarrhoea, often with fatty stools, are frequent. The appetite and thirst may be excessive, the secretion of urine increased. The extremities are cold. Rickets may be present. (3) The ordinary bacterial flora of the intestines of young children are absent. The prevailing organism is the *B. bifidus* of Tissier. With this there may be the *B. acidophilus* and the *B. infantilis*, the latter possibly a variation of *B. bifidus*. The *B. coli* and *B. lactis aerogenes* are infrequently found during the active stages of the disorder. The examination of the faeces shows an excess of fat out of proportion to the amount taken in the food, a large amount of fatty acids and soaps. (4) The urine is increased in amount and shows marked indicanuria, with an excess of ethereal sulphates, phenol and aromatic oxyacids. Freeman discusses the relationship of his cases to Bramwell's type of pancreatic infantilism. He obtained the best results by the use of pancreatic extract in two cases.

REGINALD MILLER.

**Infantile diarrhoea and its treatment** (*Austral. Med. Gaz.*, 1912, xxxi, p. 30).—H. A. Ellis looks on the following prescription as almost a panacea in this disease: Mag. sulph. ʒj-ʒiij, mucilag. ʒss, salol gr. v-x, glycerine ʒiij, aq. chlor. ad. ʒiij; ʒj every one, two, or three hours night and day, sleeping or waking, vomiting or not. In mild cases a dose every three hours is sufficient. As regards food, the author recommends barley-water and white of egg beaten up, with an equal quantity of water or soda-water. In serious cases he adds liquid peptonoids. F. R. B. ATKINSON.

**Treatment of summer diarrhoea** (*Austral. Med. Journ.*, 1912, I, p. 288).—H. D. Stephens divides the clinical course into three periods: (1) Water-

diet period. Cool boiled water is given frequently, and continued for twelve hours or even days if the motions are green and offensive and the child's condition warrants it. Castor oil should be given and the bowel and stomach washed out. (2) Interim period: (a) Cereal gruels, as barley- and rice-water; (b) proteid types of food, as egg-albumin, plasmon broth with or without gelatine, raw beef-juice, peptonoids, etc.; (c) patent foods, as Carnrick's, Neaves', Allenbury's No. 1, and, best of all, Benger's food. (3) Milk modification period. The return to milk must be made gradually, beginning with 3j of milk to one of the interim feedings night and morning.

F. R. B. ATKINSON.

**A peculiar form of anæmia in infants** (*Brazil Med.*, 1911, xxv, p. 481).—**Paranhos** describes cases of anæmia that he has observed from time to time in breast-fed children who do not increase regularly in weight and remain very apathetic. Beyond occasional slight gastro-intestinal disturbances there have been no marked symptoms. The circulatory and respiratory tracts are normal. The liver and spleen are generally enlarged, the evening temperature a little raised. Blood examination shows hæmatic insufficiency. The blood contains myelocytes, megaloblasts, and marked numbers of normoblasts; there are poikilocytosis and occasionally polychromatophilia; hæmatoblasts are numerous. The leucocytes may be 20,000 or 40,000. The presence of parasites in malaria was of course suggested and excluded. Rickets, tuberculosis and syphilis are not present. For the present the writer is content to regard them as due to some gastro-intestinal toxin. At all events under prolonged treatment the cases all finally recover.

M. D. EDER.

**The anæmia associated with rickets and gastro-intestinal disturbances, including splenic anæmia in children** (*Practitioner*, 1912, LXXXVIII, p. 675).—**H. T. Ashby** finds that the anæmia of rickets may start from a slight diminution of the hæmoglobin with abnormal number of red blood-cells, and end as splenic anæmia. He considers the latter is not a true primary anæmia, but a severe secondary anæmia due to a toxin. The same one that causes rickets causes anæmia, and if severe enough, splenic anæmia. He believes the toxin is formed in the intestinal tract, either by the action of micro-organisms or by undigested food.

F. R. B. ATKINSON.

**Acute lymphatic leukæmia** (*Journ. Amer. Med. Assoc.*, 1912, LVIII, p. 935).—**W. H. Bodenshtab** describes three fatal cases in a boy, aged 10 years, a girl, aged 16 years, and a boy, aged 11 years respectively. In the first case there were a sudden increase of large mononuclear non-granular cells, a decrease in the number of red cells, a tendency to hæmorrhages and numerous nucleated red cells. In the second case the red blood-cells were very pale and irregular, the white blood-cells showed numerous forms, polymorphonuclear cells without granules, and unripe and very young lymphocytes of the large variety. In the third case there existed only one form of lymphocytes, uniform in size, shape, and staining qualities. The ratio between white and red cells was 1 to 3. The spleen and liver were very large.

F. R. B. ATKINSON.

**Acute lymphatic leukæmia in an infant** (*Arch. of Pediat.*, 1911, XXVIII, p. 43).—**B. S. Veeder**.—A female infant, aged 17 months, was



admitted to hospital with a wide-spread purpuric eruption, and died three days after admission. There was no necropsy, but the diagnosis was based on the presence of enlarged cervical axillary and inguinal glands, an enormous splenic tumour, and the following blood examination: hæmoglobin, 55 per cent.; red cells, 3,370,000; white cells, 1,330,000. Differential count (1000 cells): lymphocytes 985 (small 780, large 205), polymorphonuclears 12 (2 with eosinophile granules), myelocytes 3 (2 with basophile granules).

J. D. ROLLESTON.

**Mikulicz's disease, with a report of a case of lymphatic leukæmia in a child with marked enlargement of the salivary glands** (*Amer. Journ. Dis. Child.*, 1911, II, p. 293).—W. Tileston describes the case of a child, aged 2 years, suffering from lymphatic leukæmia and enlargement of the parotid and submaxillary glands. He finds that leukæmia associated with the syndrome of Mikulicz is extremely rare, and considers that the latter disease should be reserved for those cases of chronic bilateral enlargement of the salivary and lachrymal glands in which pseudo-leukæmia and leukæmia could be excluded.

F. R. B. ATKINSON.

**Malaria in an infant five months old, simulating Von Jaksch anæmia** (*Med. Record*, 1912, I, p. 519).—A. C. Henderson describes this case, in which, in addition to the blood-count, examination of blood revealed numerous malarial organisms. Bimuriate of quinine given hypodermically four grains daily in divided doses rapidly cured the condition. The temperature rose to 104° F. the day after the quinine was given, but afterwards remained normal.

F. R. B. ATKINSON.

**The pathology of splenic anæmia in children** (*La Pediatria*, 1911, XIX, p. 801).—G. di Cristina contributes a lengthy paper on this subject, based on twenty-eight cases observed by him, which come under four groups: (1) Cases where syphilis in the mother was ascertained by the history or by biological methods; (2) cases where the mother gave a specific reaction to tubercle and syphilis; (3) cases in which maternal tuberculosis was certain; (4) cases which were doubtful from insufficient data. Details of the blood examination are given in each, and in two cases a full report of the autopsy. In the majority maternal syphilis or tubercle was found, lending support to Epstein's theory of para-tuberculosis and para-syphilis. The author feels bound to admit the direct influence of the maternal disease on that of the child, in the sense that, although the disease of the mother is not developed in all its active manifestations, there exists in the child a true intoxication caused by poisons absorbed during foetal life through the placenta, and possibly also with the milk during the first months of suckling. He believes that most, if not all, cases of infantile splenic anæmia come under the large group of para-tuberculosis and para-syphilis, which hitherto have received scanty notice at the hands of pathologists and pædiatrists.

VINCENT DICKINSON.

**Anæmia splenica infantum** (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 690).—S. Ostronoki describes this disease fully and comes to the following conclusions: (1) Anæmia pseudo-leukæmia infantum should be removed from pædiatric terminology. (2) Anæmia splenica infantum is a special clinical entity. (3) In most cases it is secondary, and is chiefly due to catarrh of the digestive tract in connection with hypo-alimentation. (4) The primary

form exists and its ætiology is doubtful. (5) Rickets, tuberculosis and hereditary syphilis are only unfavourable circumstances in the development of the disease. (6) The disease affects boys and girls equally between six months and two years of age. (7) The characteristic signs are marked pallor, olive tinge of the face, splenic tumour usually without swelling of the liver and lymph-glands. (8) Histologically most cases show oligocythæmia, oligochromæmia, poikilocytosis, and anisocytosis (change in size), lymphocytosis, myelocytes and erythroblasts. (9) The changes of the red blood-corpuscles are typical. (10) The spleen shows marked increase of the connective tissue, atrophy of the Malpighian bodies; eosinophiles and erythroblasts are found in the pulp. (11) The changes in the lymph glands are similar, only less marked. (12) The liver-cells are round, the capillaries of the liver dilated and filled with white blood-corpuscles and nuclear and non-nuclear red corpuscles. (13) Slight degenerative changes may be found in the kidneys. (14) It is distinguished from leukæmia by the absence of a marked leucocytosis and a relatively slight percentage of myelocytes in the blood. (15) The prognosis is serious. (16) The treatment consists of good food, iron, arsenic and the X rays.

F. R. B. ATKINSON.

**Splenic anæmia and splenectomy** ('*Austral. Med. Journ.*,' 1911, I, p. 37).—**Stirling and Grantley-Shelton** describe a case of splenectomy successfully performed for the above disease in a girl, aged 16 years. They consider that the operation of splenectomy for splenic anæmia shows "results more gratifying than is the case in many operations more commonly practised, if it be done before the terminal stages of liver cirrhosis with ascites and gastric hæmorrhage."

F. R. B. ATKINSON.

**Leishman's anæmia in children** ('*Gazz. med. ital.*,' 1911, LXII, p. 324).—**R. Jemma and G. di Cristina**.—This disease is now recognised to be not so rare as was formerly supposed. The writers admit the identity of the parasite with that met with by Leishman and Donovan in cases of kala-azar in India, and pointed out by Pianese as existing in cases of infantile splenic anæmia. The disease is most frequent in the second and third years, at the end of winter and in spring. Until recently it was only met with at Naples, on the Calabrian coast, Lipari, Sicily, Tunis, and Malta, and among the fishing and agricultural population who lived in squalid and unhealthy surroundings. The disease is feebly contagious, and has a tendency to remain circumscribed; it may disappear from a given locality, and then re-appear without apparent cause; it may also break out in situations where it did not previously exist, or where no cases have occurred recently. These facts tally with the presence of an intermediary host, and Leishman-Donovan bodies were found on rare occasions in *Pediculus capitis*, and more abundantly in *Cimex macrocephalus*, in the intestines of which were noticed flagellate forms. Since the parasite exists in the blood of the patient in very small numbers it requires a long time to infect the *Cimex*, and the intervention of the dog is probably required as a depository host to explain isolated cases occurring at a distance. The parasite belongs to the group Mastigophora, sub-class Flagellati, genus Herpetomonas. *Symptoms*: Intestinal disturbance of a mild type with diarrhœa is noticed at the beginning in most cases, sometimes with vomiting, then febrile symptoms, anæmia and enlarged spleen. Sometimes the fever is accompanied by rigors and sweating, which, taken in conjunction with the splenic enlargement, leads to a diagnosis of malaria, but the injection of large doses of quinine has no

effect on it. Confusion is also apt to arise between this disease and Malta fever, typhoid, and paratyphoid. Once established the disease goes on to a fatal termination; the fever, however, may disappear temporarily. The spleen, which is but slightly enlarged in the early stages, may attain colossal proportions; it is hard and not tender. A positive diagnosis can only be made by examination of the blood obtained by splenic puncture. Although the prognosis is uniformly fatal, the authors think there may be mild cases, which are diagnosed as infective fevers of unknown origin, and which are capable of recovery. No method of treatment has been hitherto found to be of any avail, but the authors are conducting a series of experiments with a view to immunisation. (See also '*Ann. di Clin. Med.*,' 1910, I, No. 3.)

VINCENT DICKINSON.

**Purpura hæmorrhagica** ('*New York Med. Journ.*,' 1912, I, p. 269).—**J. M. Wallfield** describes a case of a boy, aged  $7\frac{1}{2}$  years, in whose case the points of interest were: (1) The gradual development from purpura simplex to purpura rheumatica, to Henoch's purpura, and to purpura hæmorrhagica. (2) Pain was always localised on the right side of the abdomen. (3) Rheumatism existed in both parents. (4) Two severe relapses occurred on slight changes in diet during improvement. (5) The uncertainty of the prognosis, though the case seemed to be a mild one at the start. (6) Swelling in the popliteal space.

F. R. B. ATKINSON.

**Purpura fulminans following pneumonia** ('*New York Med. Journ.*,' 1911, II, p. 1031).—**D. Elliott** and **H. S. Maitland** record a case in a male infant, aged 1 year, who died forty-eight hours after the first appearance of the purpura, and on the seventh day of lobar pneumonia. The lesions were situated on both ears, right cheek, both hands and forearms, the left knee, and right foot. Blood examination: Hæmoglobin, 50 per cent.; red cells, 3,200,000; leucocytes, 14,000. Red cells showed slight anisocytosis, poikilocytosis, and polychromatophilia. There were a few nucleated red cells. Differential count: Polymorphonuclears, 86 per cent.; lymphocytes, 10 per cent.; large mononuclears, 3 per cent.; eosinophiles, 1 per cent. Urine contained some albumin and granular casts. Necropsy: Lobar pneumonia of right lung, degenerative and exudative nephritis, fatty infiltration and degeneration of liver, and acute parenchymatous degeneration of heart muscle. Smears from lung showed numerous pneumococci.

J. D. ROLLESTON.

**Œdema in infants** ('*Arch. of Pediat.*,' 1912, XXIX, p. 204).—**P. A. Potter** has seen seventeen cases showing this symptom in the past four years in which no renal or cardiac disease was found, and believes it to be due to insufficient proteids in the food, as he has noticed an increase of the proteids in the diet has resulted in a recovery of a large proportion of the cases.

F. R. B. ATKINSON.

**Anasarca without albuminuria or cardiopathy in a girl, aged 8 years, suffering from hereditary syphilis** ('*Arch. de méd. des enf.*,' 1912, X, p. 266).—**Deléarde** and **Repellin** describe this very rare condition, and can only find two cases in the literature at all resembling their own. Idiopathic anasarca is frequently fatal in children a few months of age (Fairbanks had five deaths in six cases), but as a general rule the prognosis is more favourable than in cases of anasarca due to a renal or cardiac affec-



tion. The authors consider it is due to a retention of chlorides, and recommend a diet without chlorides, the administration of theobromine and purgatives.

F. R. B. ATKINSON.

## Ophthalmology.

**Prevention of blenorrhœa neonatorum** (*'Deutsche Aerzte Zeit.'*, 1912, p. 3).—**Greven** regards Credé's method as the essential prophylactic; he recommends a 1 per cent. silver nitrate solution (instead of the 2 per cent.). In any case of blenorrhœal eye disease the upper and lower eyelids should be painted once a day by the doctor himself with a 1-2 per cent. solution of silver nitrate. When the secretion is at an end protargol (5-10 per cent.) or collargol (1-5 per cent.) twice a day should be substituted.

M. D. EDER.

**Membranous conjunctivitis in a new-born child** (*'Journ. de méd. de Paris,'* 1912, xxxii, p. 357).—**Ginet and Paillaise** record a case in which, though Credé's method was used immediately after birth, suppuration of the left eye occurred the next day, and of the right eye on the day after. A slight degree of suppuration continued, and six days after birth membranous patches appeared on the palpebral conjunctiva on both sides. The lids were swollen and infiltrated. Microscopical examination of the membrane on the eighth day of life did not reveal any characteristic organism, but only a few cocci and no bacilli. Before death, which took place on the tenth day of life, the membrane had invaded the bulbar conjunctiva. The clinical features were those of diphtheritic or gonococcal conjunctivitis. The date of onset is in favour of the latter.

J. D. ROLLESTON.

**Bilateral anophthalmos** (*'Med. Record,'* 1912, i, p. 165).—**H. B. Sheffield** records a case in a baby aged 8 months. No family or personal history was obtainable. The lids were normal in development; on being separated they showed a thick pale membrane, which yielded to pressure sufficiently to prove the absence of even rudimentary soft visual structures behind it. Only about 100 cases of this condition have been recorded.

J. D. ROLLESTON.

**Buphthalmia** (*'Cleveland Med. Journ.,'* 1912, xi, p. 188).—**S. H. Monson** describes the case of a boy, aged 9 years, in whom enlargement and exophthalmos of the left eye were very marked. A few weeks since he had received a blow on the eye, and as a result so much pain and photophobia occurred that he had to keep both eyes tightly closed. The right eye was normal, but the cornea of the left was large and of a blue colour, with marked circumcorneal injection. Enucleation was performed, since which time the right eye was kept open without effort, but no ophthalmoscopic examination had been made up to the time of publication. The author discusses the statistics and cause of the condition.

F. R. B. ATKINSON.

**Bilateral congenital anterior staphyloma of the eyeball, with histological examination** (*'Ophthalmoscope,'* 1912, x, p. 184).—**Sydney Stephenson**.—The case was that of a small male infant, weighing  $4\frac{1}{2}$  lb., who came under observation when eight days old. The condition is thus described. Each palpebral fissure is occupied by a globular fleshy mass, in

which no trace of cornea can be recognised. This mass, which is translucent when light is thrown upon it by a lens, protrudes from between the eyelids. It shows no signs of pigmentation. The eyelids cannot be closed so as to cover the fleshy prominences. The conjunctival sacs are well formed. Each palpebral fissure is extended by a slit-like prolongation beyond what should be the outer canthus. There are no evidences of recent inflammation as regards the palpebral conjunctiva, which is smooth, thin, and barely reddened. In particular, there is nothing in the condition of the conjunctiva to suggest an antecedent ophthalmia. No discharge is present from the conjunctiva. Other congenital deformities are present, as follows: (1) The head is spherical, measuring  $11\frac{1}{4}$  in. in circumference (microcephalus). (2) The ears are normal as regards shape, but from the posterior surface and the helix there grows forward a fringe of long, soft, dark hair. (3) The right testicle cannot be felt in the scrotum, although the left one is in place (monorchism). (4) The little finger is small and incurved; it is, in fact, of Mongolian type. (5) The lower extremities show several deformities: (a) No movement at the hip-joint can be elicited; (b) the patellæ appear to be absent; (c) the knees cannot be flexed, but extension is possible to the extent of a right angle on both sides (*genu recurvatum*). The infant suffered from attacks of dyspnoea, in one of which he died when sixty-seven days old. An autopsy was not allowed, but the eyeballs were removed and submitted to careful examination, details of which are given. The results of the microscopic examination substantiated the opinion (based on clinical evidence) that the condition was one of mal-development.

J. ALAN.

**Amaurotic family idiocy** (*'Med. Record,'* 1912, I, p. 165).—H. B. Sheffield records a case in an 11-months-old baby, the youngest of three children of Austrian-Hebrew parents. The infant was normal until six months of age, when it grew pale, flabby and less active. The characteristic symptoms and eye changes developed. Anti-syphilitic treatment was of no avail, and death took place from hypostatic pneumonia following influenza.

J. D. ROLLESTON.

**Four generations of blue sclerotics** (*'The Ophthalmoscope,'* 1912, x, p. 188).—C. A. Adair-Deighton.—Of twelve individuals nine had blue sclerotics, and five of these multiple fractures (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 202).

J. D. ROLLESTON.

**Ocular manifestations associated with some forms of chronic cyanosis, especially in congenital heart disease** (*'New York Med. Journ.,'* 1912, I, p. 69).—T. B. Holloway describes nine cases, one personal, of cyanosis retinæ out of twenty-seven cases reported in congenital heart disease. The veins of the lids are often enlarged, the conjunctiva discoloured, and in pronounced cases the sclera as well. The discs in the majority of cases are hyperæmic, and the disc margins are blurred in various degrees. In three of the twenty-seven cases the disc was normal. In some cases the retinal arteries are normal, in others contracted, and in others dilated and tortuous. The arterial blood appears darker in colour and similar to the venous. The veins are always dilated, and in one case saccular dilatations were present. In some cases the venous branches showed a reflex stripe. The colour of the blood has been described as violet, brownish, violet-brown, and almost black. Hæmorrhages have been noticed in the retina, and also into the vitreous. Exophthalmos

has been seen. In cases of polycythæmia or erythræmia, retinal hæmorrhages, venous dilatation, dusky red discs with hazy margins, have been observed. In cases of intoxications from coal-tar products and other drugs, various conditions of the retina, iris and sclera have been noticed very similar to those met with in cyanosis retinæ and polycythæmia. Mention is also made of the rare condition known as enterogenous cyanosis, in which the chief symptom has been attributed sometimes to methæmoglobin and sometimes to sulphæmoglobin. There is an extensive bibliography.

F. R. B. ATKINSON.

**Ocular conditions found in Mongolian idiots** (*Ophth. Review*, 1911, xxx, p. 380).—A. W. Ormond, at the November meeting of the Ophthalmological Society, read a paper on this subject based on forty-two cases. Over 50 per cent. had defects in their lenses, and almost all had some ocular defect, such as blepharitis, ectropion, squint, nystagmus or lens opacity. Blepharitis and conjunctivitis might be primarily due to dirty habits and might be kept up by uncorrected errors of refraction. A more certain cause of the inflammatory condition of the lids was a dry, glazed condition of the skin of the lower lids, which, by its contraction, caused a slight degree of ectropion. The cataracts were of the incomplete form, and most of them of the "dot" variety, in the position common for lamellar cataract. These dots, when slight, were often translucent, and so could not be seen by transmitted light. The opacities did not reach to the periphery of the lens in any direction, and consisted of numerous small discrete dots. The posterior pole of the cataract was often marked by a star-shaped opacity. The visual acuity could not be accurately recorded, as the children were not sufficiently controllable to be trusted with glasses. Of the forty-two cases, thirty-two were males and ten females. Twenty-three had the interpalpebral fissure directed upwards and outwards, five had nystagmus, nine had squint, eighteen had either blepharitis or ectropion, or both, eleven had epicanthus, and twenty-five had some lens opacity.

J. ALLAN.

**Proptosis: A clinical study** (*Glasg. Med. Journ.*, 1911, II, p. 401).—A. Maitland Ramsay emphasises the fact that proptosis is merely a symptom, and that each case must be investigated for an underlying cause. Clinically cases may be grouped as follows: (1) Proptosis accompanied by signs of inflammation; (2) proptosis unaccompanied by signs of inflammation. In developing points of differential diagnosis he quotes the following illustrative cases in children: (1) Orbital cellulitis following post-influenzal suppuration of the anterior ethmoidal cells; (2) abscess of the orbit complicated by panophthalmitis; (3) periostitis of the orbit, followed by abscess of the brain; (4) fungating bleeding round-celled sarcoma, which originated in the left orbit; (5) angioma of the orbit.

J. ALLAN.

**Chronic membranous conjunctivitis treated with vaccines** (*Ophthalmoscope*, 1912, x, p. 312).—E. A. Dorrell describes a case of this disease in a male child, three months old. Examination of the membrane revealed pneumococci and the influenza bacillus; a vaccine was made from mixed organisms and a dose of two millions given, which was repeated in four days. The eye gradually got worse, the vaccine was discontinued, and the eye washed out with perchloride of mercury lotion, 1 in 6000, the membrane removed and nitrate of silver applied. Six weeks afterwards the condition remained the same. A vaccine of fresh pneumococci was made, and



a dose of 5 millions given. This made matters worse. A fortnight afterwards a vaccine was made from a culture of streptococcus found in the membrane and four doses from 400,000 to 800,000 given. Improvement gradually took place, but a cure had not occurred six months afterwards when a relapse set in and an autogenous vaccine dose, 400,000, was given, and gradually increased to 2,000,000. The condition improved, but a cure had not been effected twenty-six months after commencing treatment.

F. R. B. ATKINSON.

**Parinaud's conjunctivitis (tuberculous conjunctivitis)** (*Ophth. Review*, 1912, xxxi, p. 31).—**Adam and Watzold**, at the November meeting of the Berlin Ophthalmological Society, reported this case, which occurred in a boy, aged 9 years, who had exhibited many signs of tubercle of lung and other parts. For five months the pre-auricular gland had been swollen and the left eye had been inflamed. In the conjunctiva of both lids were warty, red, broad-based masses, specially numerous upon the lower lid, and particularly towards the *cul-de-sac*. The eye itself showed no change, but the pre-auricular and submaxillary glands were enlarged and painless. A portion of tissue excised from the conjunctiva exhibited typical tuberculous structure with œdema of the superficial tissues, and with giant-cell formation in the deeper. A minute portion introduced into the anterior chamber of rabbit and guinea-pig brought on typical tuberculous iritis and cyclitis. In the guinea-pigs experimented upon the mesenteric glands became swollen with tubercle. In the course of discussion, Kriusius suggested that this form of conjunctivitis might be due to re-infection in a body already infected with tubercle.

J. ALLAN.

**Parinaud's conjunctivitis** (*Semana Medica*, 1912, xix, p. 652).—**Argañaraz**.—This infectious disease of the conjunctiva is most commonly seen in childhood or in youth. The following signs must all be present to justify the name: (1) Conjunctivitis with the characteristic granulations; (2) palpebral tumefaction; (3) enlargements of the parotid and submaxillary glands; (4) fever, anorexia, etc. The disease runs a mild course, lasting seven to ten months, and leaves no traces behind. The disease is not contagious; and it has not been experimentally produced in the conjunctivæ of animals. The cornea and the lachrymal apparatus remain unaffected. It is not a tuberculous disease as was once thought. Possibly the *Bacillus æerosis*, either alone or in conjunction with other micro-organisms, is the causal agent. Injections of Behring's serum have proved of some value; the rest of the treatment should be symptomatic, fomentations, etc.; silver nitrate should never be used. Four cases are reported, of which three were in children.

M. D. EDER.

**Keratitis as a cause of myopia** (*Glasg. Med. Journ.*, 1912, i, p. 241).—**J. A. Wilson** maintains that there is some relationship between corneal opacities and myopia. Corneal opacities are the remains of bygone inflammation, with or without ulceration, and if there is any relationship it must in the first case be with the keratitis. One hundred cases of corneal opacities were investigated, with the following results: 88 per cent. had very bad or bad vision; in 69 per cent. the error of refraction was found to be myopia; 62 per cent. of the opacities were due to some disease affecting the eyes when the patients were about, or under, five years of age, 34 per cent. to disease when between five and ten years, and 4 per cent. to disease when

over ten years, that is to say, in practically all cases during childhood. The disease which caused the opacities was—with striking frequency—said to have followed measles, and in the author's cases the disease was most likely to be phlyctenular ophthalmia. In his concluding remarks on treatment he lays special emphasis on the great importance of careful and efficient treatment. These cases should be kept under observation after the acute stage is over, school work relaxed, and an effort made to keep the intra-ocular pressure low. By avoiding recurrence of the attacks much might be done to lessen or prevent secondary ill-effects.

J. ALLAN.

**Retinal disease with detachment in a child** (*Ophth. Review*, 1911, xxx, p. 349).—**R. A. Greeves**.—A well-grown healthy boy, aged 6 years, came under observation with a red and painful left eye, which had been in this condition for a week. Prior to this no difference in the eyes had ever been recognised, except that the left eye was liable to turn outwards at times. This had been first noticed when the child was a year old. Measles six months before. Parents healthy; one other child, also healthy. An uncle had died of phthisis. The patient had had a severe blow on the left side of the head and face two months before the onset of the present trouble. On examination there was no perception of light in the left eye; the pupil was semi-dilated and inactive; the tension was high. There was no fundus reflex, but the retina and its vessels could be seen plainly by focal illumination. It was seen to be pushed forwards behind the lens, and it exhibited an absence of mobility and transparency which gave the impression that there was something solid behind. The right eye was normal and emmetropic. The left eye was enucleated. The eyeball was bisected horizontally after having been hardened. The anterior chamber was found to be shallow, and the iris was adherent to the cornea at its root. There was a mass of highly organised fibrous tissue surrounding the papilla. This mass apparently represented the outer layers of the overlying retina, with which it was continuous. Associated with it were recent hæmorrhages as well as spaces containing cholesterol crystals. The rest of the retina was detached and thickened. There was no vascular disease. Secondary glaucoma was present and appeared to be recent. The author thinks that an injury at birth may have been the primary cause (the birth was an instrumental one), and that the recent injury may have excited recent changes.

J. ALLAN.

**Strabismus in infants and young children** (*Med. Record*, 1911, II, p. 1170).—**J. M. Heller** emphasises the importance of dealing with cases of squint at the earliest possible moment. He discusses three of the numerous theories with regard to its ætiology, namely, the short-muscle theory, the refraction theory, and the fusion theory. The last is the most feasible and scientific. As to treatment, errors of refraction ought to be corrected by suitable lenses, and as soon as the patient is old enough to understand what is wanted he should be made to exercise his fusion with the amblyoscope of Worth. The author believes that this plan of treatment conscientiously pursued will at least preserve the sight of the squinting eye, even if it does not overcome the strabismus and secure binocular vision. If necessary, an operation may be done later to straighten the eyes.

J. ALLAN.

**Concomitant squint following injury to the head and eye** (*Glasg. Med. Journ.*, 1912, I, p. 251).—**A. J. Ballantyne** records two cases. In

the first, a boy, aged 8 years, there had been a compound depressed fracture of the right frontal bone. There were also swelling and ecchymosis of the eyelid on the right side and chemosis and subconjunctival hæmorrhage in the right eye, and he was unable to open the eye spontaneously until about a fortnight after the accident. When this occurred it was noticed that he had a convergent squint of the right eye and he complained of double vision. Prior to the accident no squint or diplopia had been evident. There was a pronounced error of refraction (compound hypermetropic astigmatism), for which correcting lenses were prescribed. After wearing these for a few weeks the eyes were parallel and the diplopia had disappeared. In Case 2, a boy, aged 11 years, had been struck on the left eye with a golf-ball. The eye was blackened and the lids were swollen, and a bandage was worn for some days. When the bandage was removed he was found to be squinting with the left eye, and about the same time he complained of double vision, neither of which symptoms had been previously noted. As in the first case, there was an error of refraction, which was duly corrected. In this case it was found necessary at a later date to operate to obtain perfect parallelism of the eyes. The author discusses the causation, and comes to the conclusion that the explanation is that the accident in each case, by causing temporary occlusion of one eye, gave occasion for the conversion of a latent into a manifest squint. Prognosis is good in such cases.

J. ALLAN.

**The management of squint in children** (*Amer. Journ. Dis. Child.*, 1912, III, p. 107).—C. W. Le Fever points out that the responsibility for allowing children to become adults with eyes crossed and loss of function in one eye must be shared by three persons, namely, the parents, the pædiatrist or general practitioner, and the oculist. Two factors are responsible for the squint, namely, an error of refraction, which is generally hypermetropia and deficient development of the fusion sense. They may act together or singly. Treatment is considered under five heads: (1) Correction of any error of refraction; (2) the use of atropine to suppress accommodation and render third nerve stimulus of no avail in helping the visual acuity; (3) cure of the amblyopia; (4) re-establishment of the fusion sense; (5) operative measures, which should only be used as a last resort.

J. ALLAN.

**A plea for the early treatment of squint** (*Austral. Med. Gaz.*, 1912, I, p. 493).—M. Thornett's conclusions are as follows: A child should be treated for squint the very first week he is seen to squint, and no child is too young for this. The squinting eye must be made to see. Operation should not be done except as a last resource. Tenotomy of the internal rectus should never be performed.

F. R. B. ATKINSON.

**The importance of lumbar puncture in the plumbic ocular neuritis of children** (*Austral. Med. Gaz.*, 1912, XXXI, p. 25).—J. L. Gibson describes three cases out of nine of plumbic ocular neuritis under his care treated by lumbar puncture, and believes that the right treatment for this disease is removal from home, lumbar puncture, salines and dilute sulphuric for a few days, and then iodide of potash; also pilocarpin hypodermically.

F. R. B. ATKINSON.

**Ophthalmic school clinics** (*Birm. Med. Rev.*, 1912, XIX, p. 25).—R. B. Hird describes his experience of these clinics in Bromsgrove. The



number of children attending these clinics up to date has reached about 1700, and over 200 of these required treatment for defects of vision, etc. In the Aston school clinic the author attended 270 cases; of these 253 required glasses; of these 32 per cent. were long-sighted, about 5 per cent. short-sighted, and nearly 64 per cent. astigmatic. About 70 per cent. of the cases required glasses for purposes of education and 30 per cent. to see comfortably, but could have been educated without them. Thirty-six cases suffered from squint, twelve from corneal scars, three were incurably blind. The author considers school clinics are the best means for dealing with defective eyesight in school-children.

F. R. B. ATKINSON.

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## Reviews.

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THE SEXUAL LIFE OF THE CHILD. By DR. ALBERT MOLL. Translated from the German by Dr. EDEN PAUL. London: George Allen & Co. Price 15s. net.

DR. MOLL, who is well known from his other writings on the sexual question, has in the present volume given a lucid and impartial view of the sexual life of the child. The substance of the work is shown by the following titles of the chapters: (1) Introductory and Historical. (2) Sexual Organs; The Sexual Impulse. (3) Sexual Differentiation in Childhood. (4) Symptomatology. (5) Pathology. (6) Ætiology and Diagnosis. (7) Importance of the Sexual Life of the Child. (8) The Child as the Object of Sexual Practices. (9) Sexual Education.

The unprejudiced reader cannot fail to be struck by the air of moderation which pervades the book. Thus, while showing that sexual incidents occur far more frequently in childhood than is usually supposed, the author repeatedly warns us against falling into the error of attributing a sexual significance to acts which do not possess any. The same spirit is shown in dealing with the important subject of masturbation. Though he does not consider it altogether indifferent as regards the health of the child, Dr. Moll has very rarely seen unfavourable consequences arising from the practice in early childhood, in spite of the dangers commonly supposed to be connected therewith. He has even found that many patients who have never indulged in the habit were the subjects of morbid predisposition, and therefore the sexual impulse was of minimum intensity or developed late. In the account of the development of the sexual impulse special stress is laid on the existence of an undifferentiated stage, which occurs much more frequently than is generally supposed in persons whose subsequent sexual development is perfectly normal. During this stage, in addition to heterosexual and homosexual inclinations, perverse sentiments, masochistic, sadistic or fetishistic in character, and even sexual inclinations towards animals may appear. The chapter on sexual education is full of interesting observations. Though it is desirable to divert the child from the sexual impulse, Dr. Moll rightly regards complete exclusion of sexual stimuli as impossible; instances are given to show the importance of proper care being taken to promote in the child the development of the sentiments of shame and disgust, and also of moral ideas. In dealing with the influence of religious instruction, though he does not dispute the fact that religious education may achieve admirable results, the author contests the assertion that a loftier sexual morality is

induced by this means, and gives many examples in support of his contention. Dr. Moll is in favour of co-education, and alludes to the good results obtained therefrom in America. He shows that separation of the sexes in childhood favours the development of homosexuality, while co-education gives an early stimulus to the capacity for self-protection in girls, without causing a premature awakening of the sexual life. The proper time for sexual enlightenment and the persons suitable to impart it are discussed. The author is of opinion that the biology and physiology of reproduction may be taught at a comparatively early age. Cautions regarding masturbation need not be given before thirteen or fourteen, and warnings concerning venereal infection, and in the case of girls, impregnation and prostitution should be given on leaving school. Apart from purely biological processes, on which instruction may be given at school, the mother is generally to be regarded as the best person to impart sexual enlightenment, though she is by no means always suited for the task.

We have drawn attention to only a few of the important matters discussed in this remarkable book. An excellent index will guide the reader to the author's views on sexual precocity, sexual life in town and country, the effect of castration, the value of children's evidence, and corporal punishment in schools.

The translation has been admirably carried out by Dr. Eden Paul, whose work deserves the highest praise. It should be noted that the sale of the book is limited to members of the medical, scholastic, legal and clerical professions.

J. D. R.

**DISEASES OF INFANTS AND CHILDREN.** By H. D. CHAPIN, M.D., and G. R. PISEK, M.D. Second edition. Royal octavo, pp. 636, with 181 illustrations and 11 coloured plates. London: Baillière, Tindall & Cox, 1912. Price 18s. net.

THE first edition of this work by two American authors appeared in 1909, and this, the second, has been brought up to date without materially increasing its size. The book is a very useful treatise on the diseases of infants and children, and also includes some of the commoner surgical affections. The descriptions are clear and free from all verbosity, and the treatment advocated for the various diseases is reliable, and not unduly complicated. There is little to cavil at throughout the book, which, taken altogether, is a thoroughly competent work. Some of the diseases, however, seem out of place; thus achondroplasia is included under diseases of the ductless glands, and primary myopathy under diseases of the spinal cord. With one statement we cannot agree, viz. that the lymphatic form of leukæmia is less common than the myelogenous variety. This is certainly not the case in early life.

The book contains numerous illustrations, most of which are good. Some are inconvincing, and others perhaps unnecessary. Among the last are photographs of a basket-crib, of an infant being weighed (which for some reason appears twice—on pp. 28 and 186), and of bed-sores in myelitis. The two plates of topographical anatomy, although useful, are hardly required, while the cuts of the nutritive periods from the ovum to adult life on p. 109 savour of an advertisement.

The coloured plates on the whole are satisfactory, but the difficulties in reproducing the rashes of scarlet fever, measles and German measles have not been entirely overcome.

The printing and get-up of the book is in every way excellent, and the binding is good. We recommend it to students and practitioners as a useful addition to the library.

T. R. W.

REDEN UND ABHANDLUNGEN AUS DEM GEBIETE DER KINDERHEILKUNDE.

By O. HEUBNER. Leipzig: J. A. Barth, 1912. Pp. 208. With 3 tables. Price M. 4, paper; M. 5, bound.

UNDER the title 'Reden und Abhandlungen aus dem Gebiete der Kinderheilkunde' have been collected a number of addresses given from time to time by Professor Heubner of Berlin. Delivered upon a variety of occasions, at a celebration of the birthday of the German Emperor, for example, or at the opening of a national congress for the protection of infant life, addresses such as these cannot be expected to deal with the subjects treated in great detail. Yet a very short examination of the book will serve to convince the reader that it contains no mere collection of perfunctory or conventional inaugural addresses, but that it has brought together the well-considered utterances of one who has long held a foremost place in pædiatrics, who has lived through great changes in our beliefs and in our practice, and who, as he surveys our present position, is little likely to be led away from forming a true estimate by a too great enthusiasm for the latest developments of the science. It is because Professor Heubner's long life and rich experience have given stability to his judgment, have conferred upon him, as it were, a true immunity against these temporary disorders of reason to which all of us in our enthusiasms are at some time liable, that his examination of our present beliefs has an especial value and interest.

In the first of these addresses Professor Heubner deals with inherited and inborn abnormalities of constitution, with the so-called exudative diathesis, with hæmophilia, with cretinism, and with children of neuropathic inheritance, and indicates the treatment and dietetic rules which should be adopted in each case. The second deals in general terms with the care and nurture of the infant, especially with its clothing and food. In the third Professor Heubner discusses the technique of breast-feeding, and examines the causes which have led to the apparent decline in women of the present day of the power to suckle their children. The fourth and fifth addresses treat of the feeding of older children and of the feeding of sick infants respectively. In the latter the newer teaching as to the ill-effects of excess of sugars and of fats in the diet finds expression. The sixth is upon scrofula, and treats especially of the differentiation of the scrofulous from the exudative diathesis. In the seventh hydrotherapy is discussed, and in the eighth and last the position of the study and teaching of pædiatrics in the various universities and schools in Europe is considered. We heartily recommend this little book to all who are interested in the study and care of children.

H. C. C.

THE GATEWAYS OF KNOWLEDGE. By J. A. DELL, M.Sc.Vict. The Cambridge Nature Study Series. Pp. xii + 172. Cambridge University Press, 1912. Price 2s. 6d.

THIS is a very unpretentious and excellent brochure on the study of the senses, containing a short description of the various senses of touch, smell, sight, etc., with numerous examples for testing the same. The book is well and simply written, and well suited for the purpose for which it was intended, viz. to instruct the young.

F. R. B. A.



## Correspondence.

### A NEW AND IMPROVED SODA WATER.

*To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.*

DEAR SIR,—Two years ago the question occurred to me of the practicality of making a solution of sodium citrate in such a manner as to permit of its always being available for the use of children and others who require a milk diet. The advantages of this salt in assisting the digestion of milk have within the last few years proved so great as to make a ready prepared solution a real desideratum. The property which it possesses of producing a fine flocculent curd with milk casein has made it practically indispensable in the treatment of those who have to rely upon a milk diet. To attempt to make an aqueous solution that would keep without having recourse to some antiseptic seemed impossible, because any such agent is certain to affect the food prejudicially, either by affecting its taste or by diminishing its digestibility. I therefore decided to make a more dilute solution than I originally wished for and charged it with carbonic acid gas, with the happy result that I find that this carbonated solution keeps admirably. Ultimately the idea seized me that here was a new soda water, which is not only of the highest importance from the point of view of medical dietetics, but would be of great service in maintaining the alkalinity of the blood, and in general playing its part as a remote alkalising agent. The formula finally adopted consists of five grains of pure sodium citrate, together with five grains of sodium bicarbonate, in half a pint of carbonated water.

Messrs. Jewsbury & Brown, of Manchester, have for some time past put it on the market in syphons, and many practitioners who have tried it speak of it in the highest terms.

I am,

Yours faithfully,

WILLIAM KIRKBY, M.Sc., F.C.S.

25, Thornhill Road,  
Heaton Moor, Stockport ;  
*June the 26th, 1912.*

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

SEPTEMBER, 1912.

No. 105.

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**Original Articles.**

IDIOCY AND CONGENITAL SYPHILIS\*.

By H. R. DEAN, M.D., M.R.C.P.,

*Assistant Bacteriologist Lister Institute, and Honorary Pathologist to the  
Victoria Hospital for Children, London.*

THE question of the importance of syphilis in the parents as a cause of mental deficiency in the offspring has led to the expression of very divergent opinions. The majority of authorities appear to have held that syphilis was a relatively unimportant factor. Others from a study of cases which have come under their notice have inclined to the view that syphilis was a very potent cause in the production of idiocy.

E. Mendel (1868) quoted an interesting case described by Carl Friedrich Haase in 1828. A young woman who had been infected by her husband had three miscarriages. The fourth pregnancy resulted in the birth of a living child which died with marked hydrocephalus at the age of seven months. After quoting the opinions of several writers Mendel remarks that "clinical observations in this connection are limited to a few cases, the number of which stands in marked contrast to the frequency with which pathological changes are found in the brains of children who succumb to hereditary syphilis. In any case the majority of hereditary syphilitics die long before there can be any question of mental deficiency. In those

\* A paper read at a Special Meeting on Syphilis at the Royal Society of Medicine on July the 8th, 1912.

cases, however, in which hereditary syphilis is latent or cured, but which at a later period develop symptoms of mental disturbance, it is generally impossible to refer such disturbance to hereditary syphilis, for the objective symptoms of this disease are then variable, indefinite and in no sense specific." Mendel, as may be seen from this extract, saw very clearly the difficulties which beset the proof of the view which he adopted.

It was not, however, generally considered that syphilis was a very important factor in the causation of idiocy. Critchett in 1860 stated that "there does not appear to be any reason for supposing that actual idiocy is at all a common consequence of inherited syphilis. About three years ago we looked through the patients at the Redhill Asylum without finding a single one whose teeth were characteristic, and Dr. Down informs us that he has recently made another inspection with a like result."

Sir Jonathan Hutchinson (1863) found an idiotic condition in only three out of 170 cases of congenital syphilis. The same observer (1879) examined the teeth of the idiots at the Earlswood Asylum but did not find the specific characteristics in any considerable number of cases.

Kerlin (1880) made a careful inquiry into the histories of the parents and grandparents of 100 cases of idiocy. In only 2 cases was a history of syphilis elicited, while 4 only of the 100 patients showed any evidence of a syphilitic infection.

Judson Bury (1883) described 6 cases of mental deficiency in children who were the subjects of congenital syphilis. He came to the conclusion "that hereditary syphilis is a more frequent factor in the production of mental deficiency than has hitherto been recognised."

Shuttleworth (1888) examined the records of 1000 cases at the Royal Albert Asylum at Lancaster. In 10 cases only was there reason for suspecting inherited syphilis, and in 4 cases only could the evidence be called satisfactory. Shuttleworth, however, expresses the following opinion: "In spite of these figures I am inclined to believe that inherited syphilis plays a larger part in the production of mental enfeeblement in childhood than institution statistics would lead us to suppose."

A few cases were recorded by Fletcher Beach (1888), who, however, concluded that "syphilis is not a common exciting cause of imbecility."

Down (Lettsomian Lectures, 1857), in discussing the causes of idiocy, states that in not more than 2 per cent. of idiots were there signs of inherited syphilis.



Piper (1893) examined 316 idiots and found evidence of syphilis in 5 per cent.

Hahn (1898) examined 540 idiots at the Alsterdorfer Asylum; of these, 40 (7.4 per cent.) were found to be syphilitics. Of 100 deaf-mutes at the Hamburg Asylum 4, and of 60 blind children 10, showed evidence of congenital syphilis.

Wachsmuth (1905) was unable to find even one congenital syphilitic among 185 idiots whom he examined.

Ziehen (1908) records the result of a careful statistical inquiry as to the frequency of congenital syphilis in cases showing a slight degree of mental deficiency. Ziehen found that syphilis was probably present in 17 per cent. and certainly present in 10 per cent. of the cases examined.

A very different result was recorded by Shuttleworth and Fletcher Beach, who could only trace inherited syphilis in 1.17 per cent. of their cases.

From this review of the subject it will be seen that a very wide divergence of opinion exists. It appears, however, to be quite certain that only a small proportion of idiots show the classical signs and symptoms of congenital syphilis, and if we are restricted to the usual methods of examination we must come to the conclusion that congenital syphilis has little connection with idiocy. On the other hand, the view that congenital syphilis is an important cause of idiocy has been put forward by several writers. This opinion has been based for the most part on cases of idiocy, in which, while the usual signs of syphilis have been wanting in the patient, it has been possible to establish a definite history of syphilis in the parent. The number of such recorded cases is, however, small.

The opportunity of collecting further evidence was afforded by the introduction of the Wassermann test. In the five years which have elapsed since the discovery of the Wassermann test, it has been established beyond all reasonable doubt that a positive reaction may be regarded as conclusive evidence of a syphilitic infection. It is stated that positive reactions have been obtained with the sera of patients suffering from frambœsia, trypanosomiasis, leprosy, and in certain cases of malaria. These diseases are, however, of rare occurrence in this country, and we may safely conclude that a patient whose serum gives a positive Wassermann reaction has certainly been infected with syphilis. The Wassermann reaction is, moreover, a remarkably constant sign of syphilis, for it is well known that syphilitic patients during a latent stage, at a time when no sign or symptom of the disease is apparent,

may give a definite reaction to the serum test. By the aid of the serum reaction we are able to detect syphilis in an individual who not only may show no sign of syphilis but may appear to be in perfect health. Still more remarkable are those cases in which a positive serum reaction is from first to last the only evidence of infection. It has been established that mothers of syphilitic children who appear to be in perfect health and who have never shown any sign of syphilis give in the large majority of cases a positive reaction to the serum test. The work of the last five years has established two very important facts :

(1) A positive Wassermann reaction (if certain diseases, rare in this country, can be excluded) may be accepted as specific evidence of syphilis.

(2) A positive reaction may be obtained with the serum of an individual who shows no other evidence of syphilis.

If we are prepared to accept the truth of these two statements, it is obvious that we have in the serum test an invaluable aid in determining the ætiology of a variety of morbid conditions.

The examination of the blood-serum of idiots by the Wassermann reaction has been the subject of several papers.

Raviart, Breton, Petit, Gayet and Cannae (1908) examined 246 cases, of which 76 (a little more than 30 per cent.) were found to give a positive reaction.

Kellner, Clemenz, Brückner and Rautenberg (1909) examined 216 cases, of which 13 gave a positive reaction by Stern's method, while 9 only gave a positive reaction by the original Wassermann method. To the 13 cases must be added 3 cases which were deficient in complement and were found to be positive by the original Wassermann method (7·4 per cent.). It should be noted that of these 216 cases half were over thirty and 40 cases only were under fourteen years of age. Of the patients under fourteen years of age 20 per cent. gave a positive result, of those over fourteen only 5 per cent.

Lippmann (1909) examined 78 cases at the Uchtspring Asylum, and obtained a positive reaction in 7 cases (9 per cent.). An examination of the cases at the Dalldorf Asylum gave a positive result in 13·2 per cent. Lippmann also examined 77 cases by clinical methods, and decided that 40·2 per cent. showed signs of congenital syphilis.

In 1909 I had the opportunity of examining 330 of the inmates of the Wilhelmstift, an asylum for idiots at Potsdam. A positive result was obtained in 51 cases (15·4 per cent.). Among the 51 cases which gave a positive reaction 7 were found which had definite signs of syphilis, and 3 or 4 in which syphilis might have been sus-

pected but not with certainty diagnosed. There were 2 cases with definite signs which gave a negative reaction. That is to say, among the 330 patients were 9, or including doubtful cases, 13, which from physical signs and symptoms would have justified the diagnosis of syphilis. The results in detail were as follows :

	Cases examined.	Positive.
Simple idiocy of all grades . . . . .	287	44
Congenital spastic diplegia (Little's disease) . . . . .	15	1
Marked hydrocephalus . . . . .	14	4
Epilepsy . . . . .	1	1
Microcephalic cases . . . . .	4	0
Mongols . . . . .	1	0
Deaf and dumb . . . . .	7	1
Progressive muscular dystrophy, with mental symptoms . . . . .	1	0

All the cases which gave a positive serum reaction were subsequently very carefully examined with the object (1) of discovering any sign of syphilis which had been previously overlooked, and (2) of detecting any symptom or group of symptoms common to all the positive cases. Of the positive cases, one was subject to epileptiform convulsions and showed slight choreic movements, one had strabismus and nystagmus, one had a right-sided hemiplegia, one had spastic diplegia and conformed to the type of Little's disease, one was a deaf-mute, and two were aphasic. Among the remaining cases I was unable to detect any evidence of a local lesion.

An examination was made of the cerebro-spinal fluid from 12 cases which had given a positive serum reaction. In only one case was a positive reaction obtained. I also obtained for examination specimens of serum from the parents of ten of the positive cases. The results were as follows :

Patient.	Age of patient.	Result of examination of—	
		Father's serum	Mother's serum.
B— . . . . .	9 . . . . .	Positive . . . . .	Positive . . . . .
Har— . . . . .	15 . . . . .	Not examined . . . . .	Positive . . . . .
Kr— . . . . .	11 . . . . .	Positive . . . . .	Positive . . . . .
M— . . . . .	11 . . . . .	Positive . . . . .	Not examined . . . . .
V— . . . . .	13 . . . . .	Not examined . . . . .	Positive . . . . .
O— . . . . .	11 . . . . .	Negative . . . . .	Not examined . . . . .
Sc— . . . . .	16 . . . . .	Positive . . . . .	Not examined . . . . .
R— . . . . .	12 . . . . .	Negative . . . . .	Not examined . . . . .
N— . . . . .	9 . . . . .	Negative . . . . .	Negative . . . . .
He— . . . . .	14 . . . . .	Not examined . . . . .	Positive . . . . .



Thus among 13 parents of children giving a positive reaction, 9 were found to give a positive reaction. Six mothers were examined and 5 gave a positive reaction. Seven fathers were examined, and in 4 cases a positive reaction was obtained.

It will be noticed that in the above table in the case of the patient Har— a positive reaction was obtained at an interval of fifteen, and the case of Sc— at an interval of sixteen, years after the birth of a syphilitic child. The period during which a positive reaction may be obtained is known to be extremely variable in the case of the acquired form of the disease. In the congenital form it might be expected that the percentage of positive results would bear a close relation to the age of the patients examined. A grouping of the 330 cases according to age gives the following result:

	Examined.	Positive.	Percentage of positive results.
(1) Patients aged 10 years and under (of these two only were less than 5 years old) . . . . .	94	20	21.27
(2) Patients from 11 up to 15 years of age inclusive . . . . .	142	24	16.9
(3) Patients from 16 to 20 years of age . . . . .	66	4	6.06

Of patients aged from 21 to 30, 24 were examined with 3 positive results. The remaining 8 patients ranged in age from 31 to 44 and all 8 gave a negative reaction.

The above table appears to show that the percentage of positive results diminishes rapidly after the sixteenth year, and that a larger percentage of positive results might be expected from the examination of a series of very young cases. In any case the average age of the patients investigated must be regarded as an important factor in any estimation of the prevalence of congenital syphilis, and it seems to me possible that the very contradictory results already published may be reconciled by taking the age-factor into consideration. Of the 51 cases in which a positive serum reaction was obtained 7 only showed conclusive evidence of congenital syphilis from a clinical standpoint. In the remaining 44 cases a diagnosis of syphilis rested on the evidence of the serum test.

I had hoped that by a careful examination of those cases which had given a positive result to the serum test it might be possible to detect some symptom or group of symptoms which was common to all. This I failed to do. Very few of the positive cases showed any evidence of a gross lesion in the central nervous system; and this, I think, is quite in accordance with what one might expect, for

the gross changes in the brain which are known to be due to congenital syphilis are not compatible, as a rule, with a continuance of life. If a causal relation exists between congenital syphilis and idiocy, the condition which arises may perhaps be classed as parasymphilitic. The absence of the ordinary signs of congenital syphilis in idiocy is closely paralleled in the already authenticated parasymphilitic diseases. It is, of course, well known that tabes and general paralysis commonly occur in patients where the early symptoms of syphilis have been mild or even unnoticed. Among the cases of the juvenile form of general paralysis collected by Mott (1909) quite half were found to show no sign of congenital syphilis, but nevertheless to have been born of syphilitic parents and to have brothers and sisters who exhibited the ordinary signs of the disease.

It seems to me reasonable to think that many cases of idiocy should be classed with that form of syphilis which manifests itself alone by a selective toxic action on the elements of the central nervous system. I do not wish to attach an exaggerated importance to the results of the examination of the serum in one series of cases, but when it can be shown that a considerable percentage of idiots afford evidence of a syphilitic infection, and since it is well known that the virus of syphilis is capable of exercising a selective action on the central nervous system in cases in which there is no other evidence of the disease, I think it is not unreasonable to infer a causal relation between the two conditions.

Further evidence has been furnished by Atwood (1911), who examined 204 cases in America. A positive result was obtained by Noguchi's method in 30 cases (14.7 per cent.). The results of an examination of three cases which gave positive reactions were published by Bellingham Smith and Woodford (1911), and Chislett (1911) examined 14 idiots, 8 of whom gave a positive and 6 a negative reaction. Chislett also records the results of an examination of an entire family. The father had general paralysis of the insane and the Wassermann reaction was positive. The mother had no knowledge of the occurrence of any primary or secondary symptoms. She had had a tertiary ulcer on the left leg eight years after marriage. The eldest son, aged 16 years, was said to have been "very nervous and stupid at school." He showed no sign of syphilis, but gave a positive reaction. A girl, aged 12 years, was deaf in one ear, but otherwise normal. Her serum gave a positive reaction. A girl, aged 10 years, gave a negative reaction and appeared to be quite normal. A boy, aged 8 years, had rhinitis and conjunctivitis and gave a positive reaction. The two youngest

children, aged 6 and 4 years respectively, were healthy and gave a negative reaction.

Knöpfelmacher and Schwalbe (1912) examined 29 cases of hydrocephalus, 8 of which gave a positive reaction.

The results obtained in Denmark by Thomsen, Boas, Hjort and Leschly (1911) were very different. These workers examined 2061 feeble-minded persons, of which only 31 (1·5 per cent.) gave a positive reaction. On the other hand, E. Krober (1911) examined 262 idiots at the Hephata Asylum at Gladbach and obtained a positive reaction in 21·4 per cent.

Although the results obtained by different workers in different countries are not in entire agreement, sufficient evidence has accumulated to make it appear extremely probable that congenital syphilis is an extremely important cause of mental deficiency. It must be remembered that the majority of idiots who give a positive Wassermann reaction show no other sign of syphilis. They are, in fact, cases of latent syphilis, and we are aware that during the latent stages of the acquired disease only some 40 to 50 per cent. of the patients give a positive reaction. I am therefore inclined to think that the actual percentage of positive results obtained by examining a series of idiots by the serum test comes very far short of the number which are actually infected. If this assumption is correct, we shall have to recognise syphilis as the causative factor in a very considerable percentage of cases of idiocy. The problem appears to me to be worth further effort, and an examination of another large series of cases could hardly fail to afford interest. Particularly valuable information would doubtless be forthcoming if it were found possible to make an examination of all the members of a family in which a case of idiocy had occurred. In any case the results which I obtained in Berlin show that it is desirable to examine the blood-serum at the earliest possible age. The low percentage of positive cases obtained by some workers must in all probability be attributed to the fact that a large number of adult patients have been included in their results. I am inclined to think that an examination of a series of very young patients will give a very high percentage of positive results. Additional and valuable evidence will no doubt be obtained if it is found possible to include an examination of the blood of the parents.

We may classify the cases in which congenital syphilis is the cause of disease of the nervous system into three groups :

(1) The first group includes infants who are born with marked evidence of syphilis. In these cases the brain, together with other



organs of the body, is the seat of marked change. These children as a rule die within a short time of their birth.

(2) This group includes children who appear to be healthy at birth but which develop mental defects at the time of the second dentition or at puberty. To this group belong the cases of juvenile general paralysis.

(3) In this group may be placed those cases of mental deficiency, imbecility and idiocy in many of which the Wassermann reaction constitutes the sole evidence of a syphilitic origin.

It is well known that in many cases the syphilitic virus appears to exert a selective toxic action on the central nervous system, and we might expect this toxic action to exert its influence most injuriously during that period when the brain, the most highly specialised organ of the body, is undergoing development.

Syphilis is a wide-spread disease and there is no reason for supposing that its prevalence is on the wane. On the other hand, there is a very general belief that the type of the disease is changing. While the more obvious and gross manifestations of the disease are less often seen, there is reason to think that parasyphilitic disease is increasing. The connection between syphilis and general paralysis of the insane has been established. Is it not reasonable to think that further research may establish a connection between syphilis and other diseases, which at the present time are not suspected of a syphilitic origin? The remote effects of syphilis may be even more numerous than we suppose. Organs other than the brain and spinal cord may be the seat of parasyphilitic disease. The Wassermann reaction affords a method by which this problem can be attacked, but it is obvious that results obtained by the serum test must be subjected to rigorous criticism. The occurrence of a positive Wassermann reaction in any one patient is in itself no proof that the condition which it is desired to investigate has been caused by syphilis. The presence of a syphilitic infection in such a case may be a mere coincidence. It is only after a very large number of cases have been investigated that the coincidence of a certain group of symptoms with a positive Wassermann reaction can justify us in forming an opinion. Such an investigation must be carried out on a large scale, for the examination of a very large number of patients is a necessary step to obtaining the required statistics. A commencement has been made, and the results obtained by the examination of patients with aortic disease may be here quoted.

Donath (1909) examined 27 cases of aortic insufficiency, aortitis

and aneurysm of the aorta. A positive serum reaction was obtained in 85 per cent. of the cases.

Bruckner and Galasesco (1910) obtained a positive reaction in 17 of 22 cases of aortic regurgitation.

Longcope (1910) obtained a positive reaction in 18 of 22 cases of aortic regurgitation.

These results are perhaps sufficient to show the possibilities of a systematic use of the serum test. The cases examined have, however, been too few for the results to be of real value, and in the majority of instances only those patients have been examined in whom a suspicion of syphilis was entertained.

An inquiry on broader lines is needed, and such an investigation should include the examination of cases in which syphilis is not suspected. By such means it might prove possible to enlarge our knowledge of the pathological changes produced by syphilis. An investigation on these lines has been undertaken by Churchill (1912), who has examined 102 infants and children, patients at a children's hospital in America. A positive Wassermann reaction was obtained in no less than 39 cases.

As regards the treatment of congenital syphilis it is obviously desirable that it should be commenced at the earliest possible moment. The serum test affords a means of early diagnosis and leads to the treatment of children in whom the disease is latent during the early years of life. Valuable information can without doubt be obtained by examining the blood of the mother during pregnancy.

Knöpfelmacher and Lehdorff (1910), who have devoted particular attention to this subject, have examined 135 mothers of syphilitic children and have obtained a positive result in 65.2 per cent. Of these 135 mothers 31 only showed definite signs of syphilis, while in the remaining 104 a diagnosis was only possible as a result of the serum test.

Stroscher (1910) obtained a positive result in 100 per cent. of the mothers of syphilitic children.

Mulzer and Michaelis (1910) found that 96 per cent. of infants with manifest congenital syphilis gave a positive reaction, while children with latent syphilis react like adults in the early latent period. They also found that 83 per cent. of mothers of syphilitic children gave a positive reaction. In an earlier paper Knöpfelmacher and Lehdorff (1909) reported 2 cases in which women after a series of syphilitic children gave birth to healthy children who in both cases were found to give a positive Wassermann reaction. Such cases must be regarded as cases of latent congenital syphilis, and it is in

such cases that the use of the serum test should have a special value in leading to early treatment.

Bimfel (1909) examined the blood of 230 mothers. Each was examined at least twice during pregnancy and once during the puerperium. Among 21 cases, in which there was a suspicion of syphilis, a positive result was obtained in 13 and a negative result in 8 cases. Eleven of the women who reacted positively gave birth to 3 children with symptoms of syphilis (serum reaction positive), and 8 children without symptoms (serum reaction negative). Eight cases of secondary syphilis were examined, and a positive result both in mother and child obtained in 7. Of 9 cases of latent syphilis all gave a positive reaction; in 6 of the children a positive reaction was obtained, in 2 a partial reaction.

If it can be established that congenital syphilis is a frequent cause of idiocy, it is reasonable to hope that very great success will follow the application of therapeutic and prophylactic measures.

We now possess in the Wassermann reaction a means of diagnosis which enables us to detect syphilis in cases in which it cannot be recognised by any other method. Wassermann has suggested that the serum test should be applied to every woman who is admitted to a lying-in hospital. When we consider the numerous cases in which syphilis is quite unsuspected we must admit the value of his suggestion. If a positive reaction was obtained, treatment of the mother would be commenced at once, and treatment of the child might begin from the earliest possible time after its birth. It can hardly be doubted that benefit would follow from the wholesale adoption of such measures.

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## THE PREVENTION OF DEAFNESS IN CHILDREN.\*

\* A paper read at the Health Conference, held in London, June the 25th, 1912.

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Dumb, etc.*

THERE are two great classes of deaf children—those who have been born deaf and those whose misfortune it is to become deaf after birth. With the possibility of preventing the occurrence of deaf birth I do not propose to deal; it is largely a problem in eugenics, and, whatever the future may hold as to its solution (and I must confess to a certain hopefulness), it scarcely enters into the realm of practical politics at the present time. It is to the prevention of acquired deafness that I intend to devote this paper, considering first its causes and then offering certain suggestions as to the best means of fighting them.

*The causes of acquired deafness.*—The vast majority of the cases of acquired deafness belong to three groups of causes—the infective diseases, meningitis, and primary ear disease. Examining the

statistics of the London County Council Deaf Schools, the Royal School for Deaf and Dumb Children at Margate and the Fitzroy Square School, to all of which I am attached as otologist, I find 845 cases of acquired deafness of which the causes were definitely ascertainable. Of these, 723, or 85·2 per cent., come under these three groups, the numbers and percentages being:

Infective diseases	.	.	.	343	or	47·4	per cent.
Meningitis.	.	.	.	169	„	23·5	„
Primary ear disease	.	.	.	211	„	29·1	„
				723		100·0	

I must consider these three groups of causes in some detail.

*The infective diseases.*—The infective diseases which figure in these statistics are the infectious fevers—epidemic cerebro-spinal meningitis, chickenpox, diphtheria, enteric fever, German measles, influenza, measles, mumps, scarlatina, smallpox, typhus, and whooping-cough, with pneumonia, rheumatic fever, congenital syphilis, and tuberculosis. The figures shown by some of these teach an instructive lesson. The bulk of the cases owed their origin to scarlatina and measles, which gave 127, or 34·1 per cent., and 98, or 28·6 per cent., respectively; typhus, epidemic cerebro-spinal meningitis and smallpox only 3, or 0·8 per cent.; 2, or 0·5 per cent.; and 1, or 0·2 per cent. These three diseases are all well controlled by modern preventive medicine, so that, from the enormous percentages of deaf cases caused formerly by their ravages, they have now sunk to insignificant decimals. Is it not possible that a future generation may be able similarly to point to a like reduction in the numbers due to scarlatina, measles and diphtheria? At present the last-named disease accounts in my statistics for 13, or 3·7 per cent., and whooping-cough for 15, or 4·3 per cent.

Pneumonia claimed 23 cases, or 6·7 per cent., and 39, or 11·3 per cent., were due to congenital syphilis. As regards tuberculosis, only 2 cases, or 0·5 per cent., could be definitely traced to that condition. One of these was deaf after recovery from tuberculous meningitis, the other after tuberculous disease of the middle ear. It must be remembered that it is not compulsory for deaf children to come to school until the age of seven years, and that the relatively small percentage of cases due to tuberculosis is probably due to the fact that the disease usually kills the child before school age. It is probable, however, that a certain number of the cases of chronic middle-ear suppuration was due originally to tubercle, the mixed infection which supervenes masking the primary cause. Tuberculosis attacks

the ears of a considerable number of young children, and the small percentage noted must not be taken, therefore, as a criterion of the importance of the disease.

*Meningitis.*—Under the heading of meningitis are included cases definitely certified as such, together with those accounted for by the somewhat vague terms, "fits," "convulsions," "brain fever," "inflammation of the brain," and "congestion of the brain." All these cases showed nerve-deafness of a severe type. In some the meningitis followed an injury, and in many it had left some mental impairment as well as the loss of hearing.

*Primary ear disease.*—The 211 cases of acquired deafness due to primary ear disease are divisible into two main types of middle-ear conditions—suppurative and catarrhal. Of the first there were 106, or 50·7 per cent., of the second, 104, or 49·2 per cent. The odd case was an instance of the condition known to otologists under the somewhat vague nomenclature of "otosclerosis," and may be ignored in this discussion. The salient and instructive feature of the suppurative and catarrhal cases is that the vast majority of them were primarily due to nasal causes, mostly adenoids, and were therefore eminently preventable. The serious nature of this statement is enhanced by the fact that these children were all suffering from deafness of a degree sufficiently advanced to necessitate their education in special schools. The matter becomes even more serious when we reflect that there are numbers of children being taught in hearing schools who present lesser degrees of deafness from similar causes, that is to say, *preventable* causes. Many of these children are doomed to progress in later life to a degree of deafness that must seriously interfere with their career as efficient citizens. This can be prevented by timely treatment in childhood. Therefore the matter is an urgent one and I shall return to it again shortly. School medical inspection is getting into touch with these children, it is true, but school medical inspection is not of very long standing in this country and has scarcely got into its swing.

*Types of deafness in infective diseases.*—Reverting for a few moments to the first group of causes it will be well to consider how the deafness arises in the infective diseases. These cases may be classified into three groups—suppurative and catarrhal middle-ear disease and internal ear, or nerve-deafness. Most of those coming under the first two heads are preventable by proper care of the nose and throat during the course of the disease or by prompt treatment of ear complications when they arise. Even those severe types of suppuration which sometimes occur in scarlatina and diphtheria, in



which the temporal bone is attacked by a suppurative osteitis, can be saved as regards the hearing by timely operation, as the excellent work done by Dr. Knyvett Gordon demonstrates. On the question of the third class of case—the nerve-deafness type—it is a little difficult to speak decisively. Some of them, however, could be saved by prompt treatment. Many ears, also, could be saved that are attacked by tuberculosis, but this is a question of broader range, and I do not propose to deal with it specially here. The question of congenital syphilis, in which the deafness is of internal ear type, is another question of wider significance with which it is not possible to deal in a paper like this.

*The results of deafness in children.*—I must allude briefly to the results of deafness in children from the educational point of view. A great deal has been written upon this matter of late years and the question is a very serious and important one. Whatever may be the terrors of blindness to the adult and however much more serious the affliction of loss of sight may be to grown-up persons as compared to loss of hearing, that affliction pales when it is contrasted with deafness in the child. The blind child who is a hearing child has still the ear, the most important educational portal, open to him. He can still learn to speak and so communicate with his fellow-creatures on an equal footing as regards thought processes. But the deaf child is immeasurably worse off, for, unless he is taught by highly specialised methods, he must remain dumb, with greatly limited methods of thought. Hence the prevention of deafness in children is a thing of vast importance in education. But the prevention of deafness in children goes much further than this. A long study of deafness in adults proves that the majority of its causes comes into operation in childhood, and the best way of preventing deafness in the prime of life is to have a practical knowledge of otology as it relates to the child and to forestall adult deafness by using that knowledge to the best advantage. Unrecognised and untreated nasal conditions, especially adenoids, in the child, although they may not result in ear complications at that period of life, are often slowly and silently, but as surely, working towards deafness in later years. The germ of adult deafness lies hidden in such conditions; the train is laid, and the explosion is only a matter of time. This, then, is the hour for prevention, for—

“The moving finger writes, and having writ  
Moves on. Nor all thy piety nor wit  
Can lure it back to cancel half a line,  
Nor all thy tears wash out one word of it.”

Surely the proper course to pursue is to prevent the finger from writing.

*Suggested methods of prevention.*—I have endeavoured to be brief in setting before you the factors which, under present conditions, make for deafness in children ; it now remains to offer for discussion, with equal brevity, suggestions as to the best method of meeting those factors with a view to the prevention of the deafness likely to result from them. I trust that those who speak will amplify them and add to them.

*Better care of ears.*—The first task which lies before us is to endeavour to ensure a better care of the ears in infancy and childhood. This includes the operation of all measures of hygiene, feeding, pure milk, fresh air, etc., that tend to the better care of infants and children generally and to the prevention of those diseases which, as we have seen, lead to the development of affections of the ear, nose, and throat. It also includes better care of the ears when diseased. The work of Dr. Knyvett Gordon, to which allusion has already been made, shows how much can be done to save the hearing in ears attacked by the infectious fevers, and, as he recommends, an otologist should be attached to every fever hospital. Were this done the percentage of serious cases of deafness and middle-ear suppuration due to scarlatina, measles, diphtheria and allied diseases would very soon diminish. To this I would add the making notifiable of all forms of meningitis.

As I have said, school medical inspection is getting into touch with those children whose ears need attention. The school doctor can indicate them as requiring treatment, but there his function ceases. The great difficulty appears to me to lie in making sure that treatment is carried out. Granted that the child has been earmarked for treatment by the school doctor and that the parents have consented thereto—

*How is treatment to be obtained ?* If parents are willing, so much the better ; for those who are not willing the Children's Act may have to be used to persuade them, which means, sometimes, loss of precious time. But, granting that the child is to have treatment, how is it to be obtained ? He may be taken to a hospital or to the parent's private practitioner, and it may be assumed that he obtains adequate advice. Here comes the difficulty in dealing with ear cases, and especially with suppurative ear cases—how is that advice to be put into practice ? An operation may be performed, but in many cases its mere performance is not enough. The cause may be removed but the effect has to be dealt with. Discharging ears need

appropriate treatment; catarrhal ears require inflation. The former must have constant and regular cleansing if they are to be relieved, and this cannot be done properly at home. Nor can such cases be dealt with efficiently at hospital or by the private doctor, for the parent can afford neither the time for daily visits to the one nor the fees for them to the other.

*The need for school clinics.*—These cases of chronic discharging ears are the *bêtes noires* alike of the private practitioner and of the hospital out-patient clinic. They should be treated either by skilled nurses, under medical direction and inspection, who attend certain schools or centres daily, or they must be arranged for at a school clinic. Personally I am of opinion that the school clinic must come, because it is the only really practical way out of the difficulty of dealing with the discharging ears of school-children.

But, important as it is adequately to deal with deafness and diseases of the ear in children who are already at school, we must go much farther than this if we wish seriously to endeavour to avert the heavy affliction entailed by loss of hearing. We must go to the infant before school age. I have pointed out that the great majority of the primary ear diseases—middle-ear suppuration and catarrh—arise from nasal causes, chiefly adenoids, not including, let it be understood, those due to infectious fevers.

*Effects of adenoids.*—Adenoids, even if the middle ear escapes implication by extension or infection, even if they disappear as the child reaches puberty, may leave behind them a chronic catarrh of the post-nasal space or adhesions about the openings of the Eustachian tubes which hamper the normal movements of those openings and so bring about a progressive deafness in later life. It is, therefore, in the early years of the child that we must seek to prevent deafness. We must make sure that the child's post-nasal space is kept free and unaffected by disease. It must be remembered that this space behind the nose—the naso-pharynx—is the anatomical meeting-place of several passages. Into it open the Eustachian tubes leading to the ear, the nasal chambers, the cavity of the mouth, the food-and air-passages, so that it is a centre from which, or to which, infection can spread.

*The treatment of adenoids.*—Adenoids, which may be in themselves a very fruitful source of infection, must therefore be treated consistently and conscientiously. Not only must they be removed with care and thoroughness, but the catarrhal troubles which they leave behind must also be treated. It is not enough to remove these growths and expect everything to go well, but after-treatment must



be followed out to relieve any pharyngitis or rhinitis that remains. Everything must be done to ensure a free and healthy air-way through the nose, which alone is adapted to the physiological preparation of the air in respiration.

*Prevention of adenoids.*—But again we must go farther: we must do our best to prevent the occurrence of adenoids by proper hygiene of the upper air-passages, fresh air, proper education in the use of the pocket-handkerchief and the avoidance of conditions likely to lead to the formation of the growths. Most people now know something of the importance of respiratory exercises in the development of nasal breathing, but few realise how important these exercises are in infant life. It is in the very young child that the genesis of defective respiration must be studied. In the suckling infant, if he breathes only by the mouth, not only do the nasal cavities not develop, but they may even retrogress, and the child who does not unconsciously devote several hours a day to nasal respiratory exercises cannot, and does not, profit completely by the advantages of a normal nose.

*Dangers of improper artificial feeding.*—The intensity of the respiratory exercises can be seen by those who will watch the infant at his mother's breast. In the normal child, fed naturally, the prolonged current of air that passes through the nasal cavities during the act of sucking regulates the circulation of blood in the nose, and, as it were, cleans the nasal fossæ. In the child fed artificially, unless precautions are taken to regulate the sucking and the proper use of the air, dust and microbes of all kinds will stagnate upon the badly irrigated mucous membranes, giving rise to repeated inflammations of the naso-pharynx, which bring about disturbances in the nutrition of the tonsil situated in that space, and the enlargement of which gives rise to adenoids. Hence, in badly conducted artificial feeding and in the use (or rather, abuse) of the pernicious and abominable "comforter" there is a fruitful factor in the occurrence of adenoids. Recently, Barraud, of Lausanne, has pointed out that a great majority of adenoid cases occurs amongst the artificially fed, and a minimum in countries where normal maternal feeding is most common. This furnishes one reason more—and a very strong one—for advising all mothers to do their maternal duty and become complete mothers whenever it lies in their power to do so. However well artificial feeding be carried out it can never be considered as other than a makeshift. It has been often asked why adenoids appear to be more common than formerly, and why they are more often found amongst town dwellers and in manufacturing countries

than in agricultural districts, and in Anglo-Saxon countries than in Spain and Italy. You have just heard the answer.

*Better education in prevention of deafness.*—Thanks to the ceaseless toil of those who work in the cause of scientific research, the past decade has given us a sound knowledge of the conditions which lead to deafness and diseases of the ear in the child and the adult. How are we to disseminate that knowledge, acquired by much hard labour, and to ensure that it may lead to practical results and so discharge the debt of gratitude we owe to those who have indicated to us the path to be followed ; we can do this by educating teachers and mothers. To attain this end, however, there must be a more complete realisation on the part of the medical profession generally of the importance of deafness and of the vital necessity for preventing it in childhood. It is one matter to *know* a thing ; it is quite another matter to *realise* it. The seed must be planted when the soil is best fitted to receive it and that time is when the doctor is a student. I would urge the importance of teaching the broad principles of otology, especially as they affect the child, to every student of medicine, making a sound, practical knowledge of them one of the essentials to qualification. No doubt the burden of an expanded curriculum is already heavy for the student, but my suggestion would not add very much to it, and the knowledge would be implanted when the mind is fresh and eager. It is the things that are learned during our student days that sink deepest and become habits. We could thus ensure that the general practitioner would be in a better position early to recognise the threat of ear disease and the necessity for the prompt calling in of expert assistance. Effective prevention can only be attained by anticipation, which means ceaseless vigilance and prompt interference.

*Education of teachers.*—The elementary school teacher possesses no small potentiality for helping us in the fight against acquired deafness. Every teacher of school-children can help the parents of his charges and persuade them for their children's good. Therefore, every teacher should be to some extent a physiologist. We could place this power in their hands by giving them some knowledge of the causes which lead to deafness and of how to recognise them. This is being done for the teachers of the London County Council by lectures on the care of the ear, nose and throat, so that they may have the opportunity of becoming fully alive to the opportunities presented to them for the prompt recognition of threatened ear disease during school life.

*Education of mothers.*—In the pre-scholastic period of the child it

is the mother who is responsible for the care of her children's ears; when the child goes to school, that responsibility is shared by the teacher. Among parents there is much ignorance and superstition, often a good deal of apathy and indolence to be met. As Bishop Boyd Carpenter has recently pointed out, it is parental ignorance that is continually barring the way to our efforts for the good of the child, the child who is to follow us as the citizen of the future, to whom we have to entrust the honour of keeping unsullied a glorious past. But, in many cases, ignorance and superstition can be dispelled, and apathy and indolence can be overcome by the education of the mother. Every good mother is willing and wishful to learn what is best for her child if she is only approached in the right way. The instinct is there; it only wants a little guidance. In the 'Sixth Annual Report of the Borough of St. Marylebone Health Society' it is noted that the number of cases of epidemic diarrhœa during the exceptionally hot and trying summer of 1911 was noticeably small, and the death-rate from that disease was smaller than that of any other Metropolitan borough. This was due largely to the education given to the mothers by the Society—a teaching which was appreciated and welcomed by them. If a result so gratifying can be attained in one department, it can be reached in another. Arrangements are being made to teach the mothers of St. Marylebone the elementary principles of the care of children's ears and I believe that this will be attended with a like success.

*The National Bureau.*—Among the many bodies that exist for the dissemination of principles of hygiene, there has recently been inaugurated the National Bureau for Promoting the General Welfare of the Deaf. If that bureau, which has just completed its first year of activity, can see its way to help in the prevention of deafness as well as in promoting the general welfare of those already deaf, it will assist in a grand work and will have a great and useful future.

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## MESSAGE IN WASTING DISEASES OF CHILDREN.

By J. M. MACPHAIL, M.B., Ch.B.Edin.,  
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THE study and care of the infant are receiving so much attention at present that a few facts in connection with the successful treatment of some extremely wasted babies in one of the workhouse infirmaries may be of interest.



It has long been remarked that children often thrive badly in a hospital ward in spite of the fact that the conditions seem better than in their own homes, and the reason is, I think, that they do not get so much nursing as they have been accustomed to at home. This applies more particularly to workhouses, where the nursing staff is usually inadequate, and the same conditions occur in those cases where the mothers work in the factories all day and leave the nursing of the child to the chance ministrations of the kind neighbour.

When a child lies in a cot all day it leads a more or less vegetative existence, with sluggish circulation and respiration, and it is quite evident that it will not thrive so well as the well-nursed child, which moves and is moved about in the mother's arms and is exercised generally. Hospital babies when noticed or spoken to usually lift up their arms, expecting to be carried, but too often they have to lie contented where they are.

In the workhouse we often found that children who were doing badly in the children's ward seemed to pick up at once when transferred to an adult ward, and the reason was that they then received plenty of petting and nursing. In many unions they get the "grannies" to look after the babies, and often with conspicuous success.

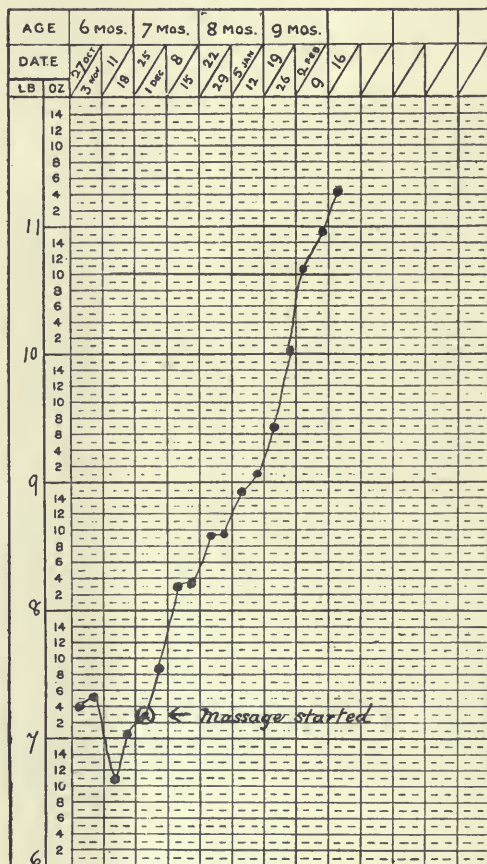
As some of the babies did badly in spite of everything I made up my mind to use general massage as a substitute for the natural form of exercise. The children in the ward were being rubbed with cod-liver oil as a routine treatment, and those that were doing worst I massaged, using cod-liver oil as a lubricant.

The massage was general, lasted half an hour, and searched out all the muscles in the body. To ensure a better circulation and to prevent stagnation in the lungs, I did artificial respiration by the Schäfer and Sylvester methods, and as the children often cried thorough lung expansion was assured. The general and local conditions speedily improved. At first a general dusky redness was produced by the friction, due to lack of vaso-motor tone, but after a few days this dusky redness did not appear, and in one to two weeks' time the pink glow of health was induced. The muscles became firmer, the motions became less frequent and improved in consistence, the child ate and slept better and usually dropped off to sleep after the treatment.

CASE 1 ("Doris").—Doris had suffered from diarrhœa, and when I saw her first she was six months old and weighed 7 lb. 4 oz. She got gradually weaker, and when massage was started on November

the 25th she was seven months old and weighed 7 lb. 2 $\frac{3}{4}$  oz. At this stage she was unable to cry properly, could scarcely lift her arm, but lay in bed moaning and with a wrinkled-up face, shrunken skin, big belly, sunken fontanelle, head-retraction and subnormal temperature.

CHART 1.

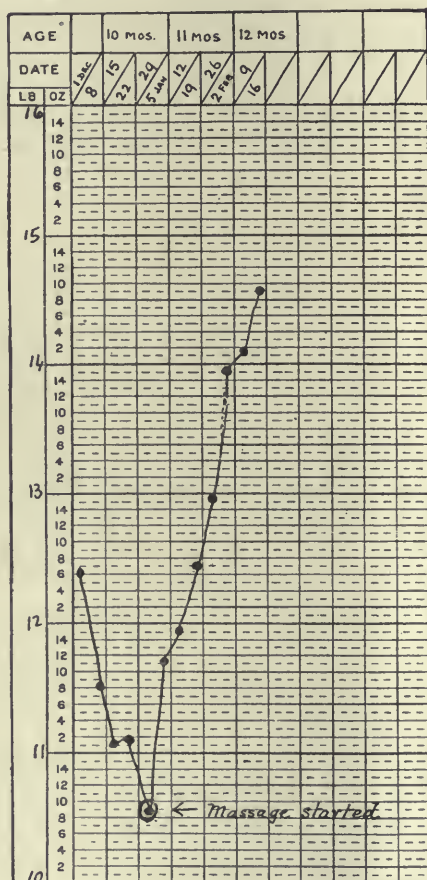


She speedily improved, and by a week's time her muscles were able to resist somewhat. Her motions became less frequent, her appetite and digestion improved, and by the time I finished the treatment she was able to digest bread-crumbs and gravy. Her muscles were firm and hard, and she smiled and chattered all day long and had a strong, healthy cry.

Under the treatment she put on 4 lb. 2 oz. in twelve weeks, and had advanced from 7 lb. 2 $\frac{3}{4}$  oz. to 11 lb. 5 oz. (*vide* Chart 1).

CASE 2 ("Ivy").—Ivy was a markedly rickety child with a well-marked rickety rosary and rickety curved tibia. She was aged 10½ months and weighed 10 lb. 8½ oz. She had two teeth, flabby muscles, flatulent distension of the intestines, and three to four loose motions in the twenty-four hours. She was very pale, took her food badly, and took very little interest in her surroundings.

CHART 2.



I began massaging her on December the 29th and she speedily improved in every respect. The rickety rosary became less and less marked, and by the end of a month was scarcely discernible. Her appetite and digestion improved and she began to smile and chatter. She gained 4 lb. 1 oz. in seven weeks, and advanced from 10 lb. 8½ oz. to 14 lb. 9 oz. (*vide* Chart 2).

Other cases were treated similarly and all seemed to improve, but



these two cases were the most successful, and the effect on the local and general condition was so marked that I was able with confidence to trace cause and effect.

Now, both of these children improved without any alteration being made in their diet, so that it was evidently not the food that was wrong but the assimilation of the food. Also the children had been rubbed with cod-liver oil before, but picked up at once when massaged, so that in their case at least the rubbing was of more importance than the cod-liver oil.

Massage has received a great deal of attention in nervous diseases and in surgical conditions, but I think that in wasting diseases it is an undeveloped subject, and that in wasting diseases of children it might effect an improvement when the nursing and natural exercise had been defective.

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## The Royal Society of Medicine.

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### EPIDEMIOLOGICAL SECTION.

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*April the 26th, 1912.*

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**Bed Isolation of Cases of Infectious Diseases.**—Dr. C. RUNDLE related his experience of treating the following diseases in one ward at the Fazakerley Hospital in Liverpool:

- (1) Cases of puerperal fever, erysipelas, rubella, and varicella.
- (2) Cases found not to be suffering from infectious disease.
- (3) Doubtful scarlet fever or diphtheria cases.
- (4) Cases requiring operative treatment in which the treatment may be prolonged.
- (5) Cases of diphtheria or measles when the wards receiving these patients are pressed by a sudden rise in the incidence of the disease.
- (6) Cases of epidemic diarrhoea.

The number of cases admitted to the ward in the course of two years was 741, and of these only two developed an infectious disease while under treatment. In one case of rubella scarlet fever was acquired from a four months' case complicated by otorrhoea, while the other admitted with mild faucial diphtheria was secondarily infected with the same disease. Tables are given of the number of different diseases, varying from six to thirteen, treated concurrently at various periods.

The question of aërial transmission of infectious disease was discussed, especially in relation to varicella, and it was shown that forty-one cases of this disease had been treated in the pavilion, but no cases of cross-infection occurred. But in the ordinary wards varicella had been introduced on twenty-one occasions during the same period. Precisely the same opportunities existed for aërial infection in both cases. In the experimental pavilion contact infection was prevented, but not in the ordinary wards. If varicella was an aërially conveyed disease it must presumably be so by transmission

of small portions of the scabs, but in that case return cases would be common, whereas they are practically unknown. The idea that the staff might develop mild and unrecognised types of infectious diseases and so act as carriers was refuted; only one out of a staff of fifty-five developed an infectious disease.

The number of articles retained for individual patients was reduced as far as possible. Feeding and other utensils were taken from a common stock and sterilised after use. Hand-washing was regarded as of final importance, and to prevent this becoming perfunctory the basins were situated in the middle of the ward and not at the bedside.

The system presented many difficulties. It required a highly trained and intelligent staff. It was necessary that scarlet fever cases with infectious complications should stay for long periods in bed, but the system was justified from the fact that of 214 patients treated in the same ward with 527 infectious cases none contracted an epidemic disease.

### LARYNGOLOGICAL SECTION.

*May the 3rd, 1912.*

**Chronic Œdema of Fauces and Larynx in a Boy.**—Mr. H. LAMBERT LACK showed a boy, aged 12 years, who had been attending the London Hospital for nearly five years, during which time the condition had remained practically the same. The uvula, which was as large as a finger, was removed, but merely showed round-celled infiltration. The stump of the uvula was seen thickened, the pillars of the fauces were œdematous, the epiglottis was considerably swollen, and the arytenoids, especially the left, were extremely œdematous. Though the boy had suffered from nodes on the bones seven years ago and gave a Wassermann's reaction, anti-syphilitic remedies were of no avail. The diagnosis was doubtful.

**Epignathus or Teratoid Tumour of the Nasal Septum and Base of the Skull.**—Mr. G. J. JENKINS showed a female child, aged 1½ years, with a teratoid tumour filling up the cleft of a cleft palate, involving the whole of the soft and posterior half of the hard palate. The tumour was free posteriorly, but anteriorly its mucous membrane was continuous with that on the premaxillary portion of the palate. In the middle of the buccal surface of the tumour was a projecting tooth with a crown like an irregular molar. There was coloboma of the iris. No other deformity. She took food well, snored badly when asleep, and often had bronchitis.

**Instruments to Facilitate Per-oral Tracheo-bronchoscopy.**—Dr. WILLIAM HILL showed a large funnel-shaped endoscope. A lateral slot permitted binocular vision and easy instrumentation in operations on the larynx, and also facilitated rapid passage of a tracheoscope or bronchoscope in (1) Dyspnoea from spasm during operations on larynx; (2) per-oral tracheo-bronchoscopic explorations, in which there was difficulty in finding the laryngeal vestibule; (3) temporary spasmodic dyspnoea supervening on anæsthesia in laryngeal and tracheal obstruction.

Dr. Hill had successfully employed an adult slotted laryngoscope in quite young children for laryngeal operations as well as to facilitate tracheo-bronchoscopy.

## ODONTOLOGICAL SECTION.

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*May the 20th, 1912.*

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**Extraction of Teeth from a newly born child.**—MR. CARL SCHELLING.—The patient was a healthy female child born with two lower central incisors. Extraction was performed, as the mother wished to nurse the infant, which was her firstborn.

Mr. J. G. TURNER showed the model of a case in which the child was born with a lower central incisor erupted. The tooth was only a partly formed crown and fell out in a few days. He had the model of a child born with two lower central incisors, which were still present at the age of fourteen years.

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### Philadelphia Pediatric Society.

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May the 14th, 1912, THEODORE LE BOUTILLIER, M.D., President.

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**The Advantages of Certified Milk.**—Dr. HENRY L. COIT, of Newark, N.J., delivered an address upon this subject by invitation.

Dr. ALFRED HAND, jun., said that the work of the Milk Commission of the Philadelphia Pediatric Society was begun twelve years ago, after a year of study of the conditions of milk-production by a Committee specially appointed for the purpose. Following somewhat the lines of Dr. Coit's Commission in Newark and being the third in point of time, it was the first to issue certificates to more than one dairy, as the New York and Newark Commissions limited their certificates to the product of one dairy each. The original requirements of the Philadelphia Commission were drawn up by people who knew nothing about the practical side of milk production, but it was interesting to note that the strictness of those requirements had not been lessened in any way and that the producers themselves admitted that the aim was good. It would be almost possible to lower the bacterial standard from 10,000 germs per cubic centimetre to 5000 without causing any hardship to the dairies at present receiving the Commission's certificates. After several years' experience it was found that the proteid percentage showed such insignificant variations that a monthly estimation was unnecessary, and it was abandoned, thus making it possible to have weekly bacterial counts instead of a single monthly count. This was of much greater help to the dairyman. The Commission originally certified to 4 per cent. fat milk, 5 per cent. fat milk and pasteurised milk, but this occasioned confusion, and for several years the certificates had been limited to 4 per cent. milk and 16 per cent. cream. The veterinarian was usually charged with the duty of inquiring after the health of the workers at his monthly visit, but this was felt to be inadequate, and physicians residing near the dairies had now been appointed as medical inspectors. When any sickness occurred among the workers or their families the superintendent of the dairy notified the medical inspector, who communicated with the physician in attendance and ascertained the nature of the disease, reporting



to the secretary of the Commission. In past years the Commissioners had visited the dairies when the spirit moved them; now the Commission consisted of ten members; attendance at each monthly meeting was required, and a certain number of absences automatically erased a name from the list and a new member was appointed; each member was also assigned to a dairy each month and was expected to visit that dairy some time in the month and report as to its condition at the next meeting of the Commission. Some of the results of the work of the Commission during the past twelve years were that 2 per cent. of Philadelphia's milk supply was certified, and that the example had been of help to many other commissions which had been established over the country.

Dr. ARTHUR NEWLIN said that, as Secretary of the Milk Commission, he had received verbal criticisms from time to time of the products of the various dairies whose milk was certified by the Commission. The Commission invited criticism, but criticism given in that manner was of little value. They wanted facts, and facts in writing. During the past year he had received but one written communication concerning the milk. If a letter was received giving exact facts, with dates, the communication would be of inestimable value to the Commission, as the information could be followed up, and if wrong conditions were found they could be corrected.

Dr. LE BOUTILLIER said that, for unknown reasons, the greater portion of the physicians of that city knew so little about certified milk that they apparently did not believe in it or recommend it to their patients. There was no doubt that babies were saved from serious illness by its use, especially in the heat of the summer. It was most important that physicians who knew its value should teach other physicians to realise the benefits to be secured by using certified milk.

Dr. W. N. BRADLEY said that, while not bearing directly upon the certified milk question, there was one thing greatly needed—improved transportation facilities which would insure the delivery of the milk very much earlier than at present. It was usually three days old before reaching the consumer. To that end every effort should be made to secure from the railroad companies more co-operation, as, aside from contamination due to handling, milk showed an increasing number of bacteria in proportion to its age.

Dr. S. McC. HAMILL stated that, while certified milk might be delivered late, it was never three days old before reaching the consumer. The railroads began the use of refrigerator cars last year. Milk ought to be delivered in the afternoon of the day on which it reached the city, not the morning of the next day, as was the Philadelphia custom.

Dr. R. S. McCOMBS suggested as the best charitable action of which he could think that certified milk be procured and given to dispensary patients at low cost; thus the babies would get good milk, and the good results achieved by such means would far outweigh the cost; in comparison with other charitable works the real good accomplished would be manifold.

Dr. H. BROOKER MILLS spoke upon the necessity of teaching medical students the value of certified milk, and reported having spent one hour during the past session at the Medico-Chirurgical Hospital explaining its advantages to students, urging its use by them in practice. He felt that perhaps they were being too enthusiastic over the various percentage methods of milk modification, causing them to lose sight of the many advantages of good, plain, clean whole milk.

## Société de Pédiatrie, Paris.

*May the 14th, 1912. (Bulletin No. 4.)*

**Treatment of Hernia in Infants.**—M. SAVARIAUD considered operation permissible, and almost always indicated after the age of six months. The operation is delicate but simple, and the results perfect; the hernia is cured in twenty-four hours. The condition may be cured by a truss if worn continually, but its application, difficult even in big children, is all the more so during the first year of life. Spring trusses cannot be employed owing to the delicacy of the skin, while an indiarubber air-cushion pad is inefficacious and causes excoriations.

**Patchy Adipose Sclerema.**—MM. TRIBOULET, RIBADEAU-DUMAS and DEBRÉ showed a girl, aged 5 weeks, who had been brought to the hospital shortly after birth on account of small nodules and indurated masses of subcutaneous cellular tissue, some beginning to soften, on the face, neck, upper limbs and trunk. Examination showed a certain degree of eosinophilia (9 per cent.). Exploratory puncture into the softened mass drew off a thick brownish fluid, rich in fat and cellular *débris*, and absolutely sterile. One of the small lumps, examined histologically, showed clearly an alteration in the subcutaneous tissue—the fatty lobules were very abundant, enlarged and modified. In fact it was a condition of adipose sclerema.

**Facial Paralysis in a Girl following a Fall.**—MM. G. VARIOT and E. BONNIOT reported the case of a girl, aged 10 years, who fell while climbing on the back of a chair. Typical peripheral facial paralysis ensued on the left side.

**A Family of Achondroplasics.**—M. TRIBOULET and Mlle. DE JONG read notes and showed photographs and skiagrams of a brother and sister, aged  $14\frac{1}{2}$  and 23 years, both achondroplastic. The mother was of medium height, their father 1.47 metre high and achondroplastic, judging from a photograph and other investigations. A similar dystrophy attacked a younger brother; two other children, the second and third, were well formed.

**Urea in the Cerebro-spinal Fluid of Infants affected with Gastro-intestinal Disturbances and Sclerema.**—MM. NOBÉCOURT, SEVESTRE and DIDOT investigated the quantity of urea in the cerebro-spinal fluid of fourteen infants, from one to ten months old. In five it was under 0.40 gm. per litre, the cases being epidemic cerebro-spinal meningitis, microcephalic idiocy, tuberculous meningitis, cachexia of unknown origin, and an acute meningeal case. In another five, comprising cases of pneumococcal arthritis, hereditary syphilis, chronic gastro-enteritis, and broncho-pneumonia, it varied from 0.40 gm. and 0.60 gm. per litre. In two cases of subacute gastro-intestinal affections it contained about 1 gm. In another two cases of gastro-intestinal disturbance with sclerema it varied between 1.70 gm. and 3.77 gm. There was no retention of chlorides. These last four cases had more or less pronounced albuminuria. Clinical observation did not support the idea that the retention of urea was attributable only to insufficient urinary excretion. In one of the cases the kidney merely showed sclerosis of a few of the glomeruli, while the liver showed marked changes. The condition seemed due to an over-production of urea and disturbance of liver formation.

function.

**Necrotic Angina in Scarlet Fever; Bacteriological Study.**—

MM. E. WEILL and DUFOUR described the case of a boy, aged  $2\frac{1}{2}$  years, admitted with scanty eruption, membranous angina, and nasal discharge; no diphtheria bacilli. On the eighth day there was sloughing and perforation of the soft palate, enlarged glands, and double suppurative otitis. Improvement began on the thirtieth day, but recovery was not complete till two months after the onset. The authors found an anaërobic streptococcus, *Bacillus radioformis*, and a bacillus analogous to the *perfringens* and classed among the septic vibrios.

**Foreign Bodies in the Air-passages.**—M. ABRAUD related a case in which he had removed the handle of a mouth-organ from the brouchus. There had been complete absence of signs of suffocation and cough. This tolerance was characteristic of foreign bodies in the bronchus, while in the trachea they produced immediate and marked disturbance.

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**Sensory reactions in the newborn** (*Journ. Nerv. and Ment. Dis.*, 1912, xxxix, p. 125).—F. PETERSON, during a period of fifteen months, conducted a collective investigation into the mental life of 1060 newborn children at the Lying-in Hospital of the City of New York, with the following results: (1) Sensibility to light was present at birth in most infants. (2) Sensibility to receive sound was equally developed. (3) The gustatory nerve reacted differently to salt, sweet and sour at birth. (4) 207 normal children reacted to odours on the first day. (5) Reactions to touch, temperature and painful stimuli were obtained in a large number of normal children on the first day. (6) The newborn frequently reacted to thirst-hunger on the first day. (7) There were good grounds for believing that the newborn child came into the world with a small store of experiences, associated feelings and shadowy consciousness. (8) There were no perceptible differences between white and coloured children or between pairs of twins. As sensibility to light, sound, taste, odours, touch and pain were also present in premature children, it followed that the corresponding nerves were prepared to receive impressions even before the end of the normal period of birth.

J. D. ROLLESTON.

**Thermometric investigations in the newborn** (*Thèses de Paris*, 1911-12, No. 239).—A. DEVILLIERS.—This thesis is based on observations made at the maternity department of the Hôpital Boucicaut in Paris, and contains brief records of twenty cases. The conclusions are as follows: The temperature of the newborn immediately after birth is always higher than that of the mother and subsequently drops. This fall is more marked and persistent in the premature. The temperature subsequently rises, reaching normal in the full-term child in a period ranging from ten to forty hours, and in the premature in from two to twenty days. The fall is due to the infant's incapacity to produce sufficient heat owing to incomplete development of its organs, and especially owing to insufficiency of the heat-regulating centres. When the temperature has reached  $98.6^{\circ}$  F. it becomes stationary. This so-



called monothermia is due partly to the infant's feeble degree of muscular activity and partly to the lesser amount of stimulation of the heat-regulating centres than in the adult. Disappearance of monothermia indicates a pathological condition. The temperature in the infections of the newborn is variable and irregular, hypothermia being usually found in the premature and hyperthermia in the full-term child. Obstetrical trauma may cause a slight rise of temperature in the infant during the first fifty hours after birth.

J. D. ROLLESTON.

**The temperature of premature children** (*'Jahrb. f. Kinderheilk.,'* 1912, LXXV, p. 232).—F. Masay finds that in these children the temperature after birth falls very rapidly with no tendency to rise. He believes that the inability of these children to regulate their temperature is not exclusively confined to hypothermia but is extended to hyperthermic phenomena, of which an immoderate reaction to external influences or an elevation of the external temperature are the fundamental reasons. The want of regulating power of the temperature is due to defective development of the thermotaxic centres and the feeble development of fat.

F. R. B. ATKINSON.

**Resuscitation of asphyxiated infants by the insufflation method of Meltzer and Auer** (*'Am. Journ. Dis. Child.,'* 1912, III, p. 50).—E. Planchu has employed the apparatus for intra-tracheal insufflation with marked success. The apparatus is as follows: (1) A rubber bulb; (2) a T tube, one branch of which is united to the bulb, another to a mercury manometer, and the third to a rubber tube ending in a metal cone; (3) a gum catheter, No. 12. A rod of soft copper is inserted into the catheter. The end of the catheter must reach the bifurcation of the trachea. For a child weighing 2000 grm. the distance is 8 cm.; 3000 grm., 10 cm.; 4000 grm., 12 cm. The operation is performed in the following way: The mucus in the throat is removed by a finger or sponge and the infant wrapped in a warm blanket and placed on the table, the neck in slight hyper-extension. The left index finger is introduced as far as the upper end of the œsophagus and the catheter containing the copper rod inserted. When the catheter has reached the proper distance, the copper rod is removed and the catheter attached to the insufflation apparatus, and air injected by the rubber bulb; the pressure must not exceed 10 or 15 mm.

F. R. B. ATKINSON.

**A study of icterus neonatorum by means of the duodenal catheter** (*'Amer. Journ. Dis. Child.,'* 1912, III, p. 304).—Alfred F. Hess records that tests by means of the duodenal catheter show that bile is very rarely excreted during the first twelve hours of life; it was obtained but once in the course of fifty-two tests. Bile excretion during the subsequent twenty-four hours is variable; in cases of marked jaundice it is profuse; in cases not jaundiced it is scanty or absent. The function of excretion gradually becomes fully established during the first week or ten days of life. Where jaundice manifests itself it precedes the excretion of bile into the duodenum. Secretion of bile varies within wide limits. In general it is marked when the jaundice is marked. The occurrence of jaundice results from a defective correlation of excretion and secretion. It is generally caused by the inability of the rudimentary excretion to cope with the sudden profuse secretion of bile.

FREDERICK LANGMEAD.

**Familial icterus gravis in the newborn** (*'Arch. f. Kinderheilk.,'* 1911, LVI, p. 313).—C. May records a family in which four children, one male and

three females, died on the third, fourth, sixth and thirteenth days of life with symptoms of malignant jaundice. The parents were healthy, and there were no signs of syphilis nor septic infection. J. D. ROLLESTON.

**Tetanus neonatorum** ('*Amer. Journ. Obst.*,' 1912, LXV, p. 1076).—**W. H. Jordan**.—A Jewish child was circumcised when a week old by the mohel, who wore a soiled apron, and sharpened his blunt knife on a slate in the yard. In three days symptoms of tetanus developed, and in spite of tetanus antitoxin death took place a week later. J. D. ROLLESTON.

**The ætiology and treatment of the so-called hæmorrhagic disease of the newly born** ('*Am. Journ. Dis. Child.*,' 1912, III, p. 216).—**Oscar M. Schloss** and **Leo J. I. Commiskey** report three cases of this condition, and give the result of their investigation of the coagulation of the blood in ten. They come to the following conclusions: (1) In the hæmorrhagic conditions of the newly born the coagulation of the blood may be normal, delayed, or absent. (2) A deficiency or absence of thrombin or fibrinogen may give rise to imperfect coagulation of blood and uncontrollable hæmorrhage. (3) In some cases of hæmorrhage in the newly born in which blood-coagulation is apparently normal, it seems probable that the hæmorrhage is due to some localised vascular lesion or defect present only in the areas from which the bleeding occurs. (4) The subcutaneous injection of whole blood is harmless, and is apparently of value in the treatment of the hæmorrhage. FREDERICK LANGMEAD.

**Hæmorrhagic disease of the newly born** ('*Western Med. Rev.*,' 1912, XVII, p. 334).—**M. Dunn** records a case in a full-term male child. Bleeding from the navel at first slight, afterward profuse and uncontrollable, occurred on the sixth day, and on the ninth hæmatemesis and subcutaneous hæmorrhages. Death, preceded by convulsions, took place on the tenth day. No necropsy. A review of the literature is given.

J. D. ROLLESTON.

**Morbus maculosus neonatorum** ('*Western Med. Rev.*,' 1912, XVII, p. 334).—**A. J. Coats** records a case in a female child, born by an easy labour at the eighth month. Practically every mucous surface as well as the skin was affected. Involvement of the brain was shown by left hemiplegia and ptosis. Death took place on the fifteenth day. J. D. ROLLESTON.

**Omphalorrhagia neonatorum** ('*Med. Record*,' 1912, I, p. 68).—**John H. Richards** takes exception to the title *hæmophilia neonatorum*, as applied to bleeding from the umbilicus during the first days of life, and prefers that of *omphalorrhagia neonatorum*, which is non-committal. Of 576 bleeders recorded by Grandidier only twelve had any hæmorrhage at this period. Dr. Richard records a case. The baby was born ten days prematurely by induced labour. On the fifth day, after the umbilical stump had dropped off, profuse bleeding from the umbilicus began. This was ultimately stopped, after the child had become almost moribund, by a purse-string suture around the base of the umbilicus. By this time, however, there was bleeding also from the nose and gums, and a little blood was passed by the bowel, and a little more vomited. Thirty minims of the father's blood-serum were given hypodermically every three hours, and soon after the first

dose clotting was seen. The serum was continued for four days. The coagulation time on the sixth day of life after administration of the serum was forty minutes, on the seventh day fifteen minutes, and afterwards it gradually lessened until it arrived at the normal and remained there. Before the use of the serum no coagulation occurred at all. Blood examination showed a remarkably low count of blood-platelets at first. A point of interest was the presence of a little blood in the mother's milk occasionally. He believes that the cause of the affection is a want of coagulability of the blood, and suggests that the defect is in the pro-thrombin or its antecedents. This is borne out by the reduced number of blood-platelets from which it has been shown that pro-thrombin is derived (Fry). From the fact that the amount of serum needed to cure omphalorrhagia for all time is very small, it would appear that the condition is due to a diminished production of platelets, and that the production is increased permanently by the administration of serum. The serum acts as an activator. It differs from hæmophilia, because in the latter there is no change in the number of blood-platelets.

FREDERICK LANGMEAD.

**Melæna neonatorum** ('*Amer. Journ. Obst.*, 1912, LXV, p. 1027).—**G. M. Boyd.**—A full-term, well-formed female child, on the fourth day of life, had profuse hæmorrhage from the bowel. As a donor could not be obtained the blood-serum from the cord of a recently delivered placenta was used. From 2-3 minims to a drachm were injected at a time, and after the second or third subcutaneous injection the hæmorrhage ceased and the baby recovered.

J. D. ROLLESTON.

**Infantile pernicious vomiting and rectal hæmorrhage** ('*Pediatrics*, 1912, xxiv, p. 216).—**Anna Ries-Finley** records the case of an infant, from whom only two distinct rectal hæmorrhages occurred, the first about 12 oz. in amount when the child was about thirty hours old, the second on the morning of the seventh day. Vomiting of green, slimy material started a few hours after birth, and became almost continuous. No bleeding occurred elsewhere than by the bowel. Death followed three hours after the second hæmorrhage. Post-mortem: Blood-clot was found in the intestine, but no local lesion, and the stomach contained a little altered blood.

FREDERICK LANGMEAD.

**The subcutaneous injection of small quantities of human blood in spontaneous hæmorrhage of the newborn** ('*Arch. of Pediat.*, 1912, xxix, p. 197).—**A. W. Myers** narrates the case of a child a few hours old suffering from bloody stools and vomiting of a large amount of clotted blood. Two injections of 3 c.c. and 5 c.c. of blood from a vein of the mother's arm stopped the hæmorrhage.

F. R. B. ATKINSON.

**The treatment of melæna neonatorum by human blood-serum** ('*Therap. Gaz.*, 1912, xxxvi, p. 77).—**W. R. Nicholson.**

**Normal human blood-serum injections in melæna neonatorum and other conditions** (*Ibid.*, p. 81).—**J. E. Welch.**—Owing to the enormous mortality that results from this condition, any remedy that can be proved of utility should be welcomed. Both authors consider this is to be found in the injection of human blood-serum. The former author narrates one and the latter thirteen successful cases. Both prefer this remedy to transfusion.

F. R. B. ATKINSON.



**Convulsions in the newly born** (*'Arch. f. Kinderheilk.'*, 1912, LVIII, p. 1).—**C. Stamm**.—Convulsions of a functional nature are rare in the newly born but are not unknown. The most usual cause is to be found in hæmorrhage of the brain, and this may arise, as in a case of the author's, intra-partum without the presence of a trauma. Leitz divides hæmorrhages in the newly born into supra-tentorial, intra-tentorial and mixed forms, the latter associating the symptoms of the two former. Supra-tentorial hæmorrhage shows the following symptoms: Great unrest, shrieking, tension of the fontanelles, dermographism, paleness of skin, facial paralysis, paralysis of the hypoglossus (the tongue deviates to the paralysed side) and accessorius, spasms and paralysis of arm and leg, oculo-motor symptoms and myosis. Lumbar puncture shows slightly blood-stained liquid, not pure blood. The symptoms in infra-tentorial hæmorrhage are comparative quietude, cyanosis, and disturbances of respiration. Lumbar puncture shows a large amount of blood. There are no distinct unilateral symptoms. Opisthotonos, stiffness of the neck and limbs, and clonic contractions of the limbs on both sides are marked. The author describes a case corresponding to this latter condition.

F. R. B. ATKINSON.

**Œdema neonatorum** (*'Med. Record,'* 1911, II, p. 1063).—**Herman B. Sheffield** records an example of this condition, which is of particular interest, in that the usual causes were absent. The child was born at full term, weighed 8 lb., was not asphyxiated, was free from congenital syphilis, and showed no local infection. Œdema began on the sixth day. Repeated urinary examinations revealed no sign of renal disease, except a trace of albumin, which is commonly met with in the newly born. The rectal temperature was 97° F. The œdema disappeared entirely in about six weeks, while two grains of potassium acetate and ten drops of infusion of digitalis were being administered every four hours.

FREDERICK LANGMEAD.

**Diaphragmatic hernia of the newborn** (*'Wien. klin. Rundschau,'* 1911, xxv, pp. 790 and 806).—**Keck** describes the pathological anatomy in a child who died five hours after birth from a diaphragmatic hernia. Such herniæ are either congenital or acquired, but even in the latter there is some anatomical predisposition. Dependent on the presence or absence of the hernial sac these deformities are divided into true and spurious diaphragmatic herniæ; but in the absence of a sac the condition is not properly to be regarded as a hernia at all: it is really an intestinal ectopia. The development of the diaphragm serves to explain the process by which these herniæ are formed. It is exceptional for the child to live more than four hours after birth. The diagnosis is difficult; occasionally pneumothorax can be made out. According to Mermann and Ikeda rhythmical thrusts of the fœtus against the uterine walls during the last months of pregnancy are a sign of fœtal singultus and of the presence of a diaphragmatic hernia; further observations are required before this can be accepted. It is doubtful whether surgical help can avail, although Ikeda has advised immediate laparotomy and reposition of the hernia.

M. D. EDER.

**Torticollis in the newborn** (*'Thèses de Paris,'* 1911-12, No. 197).—**D. Goldberg** maintains that torticollis at birth is not exclusively due to obstetrical traumatism. Histological examination of the sterno-mastoid in such cases may reveal Zenker's degeneration with hyperplasia of connective

tissue. Infections or intoxications in the parents, such as syphilis, tuberculosis or plumbism, are probably responsible for the lesions. The thesis contains the histories of seven cases, one of which is original.

J. D. ROLLESTON.

**The early death of many children in one family** (*Jahrb. f. Kinderheilk.*, 1911, LXXIII, p. 164).—K. Stolte considers there are three reasons for the above occurrences: (1) Syphilis or alcoholism in the parents. (2) Infectious diseases, including tubercle. He conjectures that an hereditary predisposition to infectious diseases may exist in some families. (3) Neuropathic taint in the parents, in which cases also alcoholism is often present. The first signs in the child are twitchings during sleep, night-terrors, and somnambulist tendencies. These are apt to end in convulsions. The treatment of these three classes is as follows: (1) Anti-luetic remedies should be given to the parents until all signs of the disease are eradicated. (2) A rational treatment in the way of food should be employed to hinder as far as possible all tendency to infection. (3) Little can be done to ward off early death in the third class of cases, which usually result from mental degeneration.

F. R. B. ATKINSON.

**The polygraph as an aid in diagnosis of cardiac conditions in children** (*Amer. Journ. Dis. Child.*, 1912, III, p. 69).—G. R. Pisek and H. C. Coffin used a modification of the Erlanger sphygmograph with a Hirschfelder attachment in the examination of children aged from four and a half to fifteen years suffering from congenital or acquired heart lesions. In each case satisfactory tracings were obtained from the brachial artery, præcordium and jugular bulb. It was found that the polygraph offered a means of accurate diagnosis which was not afforded by the ordinary methods of examination, and that the information obtained from the tracings was of value both for prognosis and treatment, *e.g.* digitalis heart-block should be suspected when the pulse became irregular during the use of the drug. Respiratory arrhythmia was surprisingly frequent, but extra systoles or auricular fibrillation were not found in children.

J. D. ROLLESTON.

**Malformation of the heart** (*Cleveland Med. Journ.*, 1911, x, p. 748).—G. P. Edwards describes a case of a baby in whom, on post-mortem examination, the following condition of the heart was found. The heart was enormously enlarged, and consisted chiefly of the right auricle, the walls of which were thin. The venæ cavæ were large and distended. The foramen ovale was closed; the tricuspid orifice and right ventricle were represented by a pit 8 by 5 mm. Leading from the pit a fibrous cord, about 4 mm. in diameter, could be traced along the anterior part of the aortic ring, representing the obliterated pulmonary artery. The left auricle was normal, but the left ventricle large. The mitral and aortic valves were normal. The aorta was very large. The ductus arteriosus admitted a 2 mm. probe, and was continuous with the first branches of the pulmonary artery.

F. R. B. ATKINSON.

**Mild and latent cases of congenital heart disease** (*Clin. Journ.*, 1912, xxxix, p. 209).—A. J. Jex-Blake enters into a consideration of this subject, describing its ætiology, preponderance in the male sex, and heredity, pathology, and physical signs and symptoms, with illustrative cases to show the latency of the affection. The appearance of the heart on examination

by the X rays also receives attention, and mention is made of Groedel's diagnostic sign of defect in the interventricular septum, namely, the appearance on the screen of simultaneous contraction towards the middle line of both sides of the cardiac shadow when ventricular systole occurs.

F. R. B. ATKINSON.

**Congenital pulmonary stenosis** (*Brazil Médico*, 1912, xxvi, p. 81).—**Gesteira** describes a case in a child, aged  $4\frac{1}{2}$  years, who had never suffered from cyanosis. There had been frequent attacks of bronchitis and measles at the age of three. Dulness and moist crepitations were found in the chest. Dulness over the cardiac region was rectangular, passing over to the right border of the sternum. Apex-beat in sixth space outside mammary line; fremitus felt more distinctly at pulmonary base. A loud rough murmur, which occupied the whole of the systole, was heard over the cardiac region, most distinctly at the pulmonary base and directed towards the external extremity of the clavicle. The second pulmonary sound clear and resonant. Radioscopic examination (a photograph accompanies article) showed enormous enlargement of the heart, with considerable dilatation of the right side. The ætiology and pathology of the condition are discussed. Syphilis is one of the chief causes; other cases are due to intra-uterine inflammatory conditions or to structural defects.

M. D. EDER.

**Cardiac troubles following severe infections** (*Paris Méd.*, 1911-12, i, p. 10).—**V. Hutinel**.—(1) Bradycardia is chiefly met with after diphtheria. Where the heart and pulse are both slow about 70 per cent. of the patients die. After scarlet fever bradycardia is rare. (2) Tachycardia is more frequent, and is met with after many diseases which do not require enumeration. (3) Arrhythmia is not due to myocarditis, but to the nervous influence on the heart. The treatment recommended by Hutinel consists in milk and vegetable diet, abstinence from meat, and rest. Digitalis aggravates arrhythmia, and is to be avoided. Gymnastic movements from twenty to thirty minutes every day, properly supervised, are invaluable. Salt bath or carbo-gaseous baths and abdominal massage are also in place. Physio-therapy is much more valuable than drugs.

F. R. B. ATKINSON.

**Changes in the heart-muscle and especially the arterio-ventricular bundle in diphtheria** (*Virchow's Archiv*, 1912, ccvii, p. 115).—**T. Tanaka** examined the heart of fifteen children who had died from faucial diphtheria, and came to the following conclusions: (1) Acute failure of the heart in diphtheria is to be attributed to general disease of the myocardium, with or without simultaneous affection of the atrio-ventricular bundle. (2) The essential changes in the atrio-ventricular bundle in diphtheria are fatty and waxy degeneration. (3) The atrio-ventricular bundle shows a certain independence pathologically. (4) Fatty and waxy degeneration form the principal morbid processes in the general heart musculature in diphtheria, while interstitial infiltrations are of secondary importance.

J. D. ROLLESTON.

**Auricular fibrillation and heart-block in diphtheria** (*Heart*, 1912, iii, p. 233).—**F. W. Price** and **I. Mackenzie** record a case in a girl, aged 9 years, suffering from severe diphtheria. The pulse fell from 84 to 44 within a few hours on the sixth day of disease, and death, preceded by cardiac dilatation and enlargement of the liver, occurred on the eleventh day.



The polygraphic tracings suggested that the slow ventricular rhythm was not associated with an independent auricular rhythm, but that the auricle was in a state of fibrillation. Post mortem the heart showed extreme degeneration and cellular infiltration of the cardiac muscle, especially in the ventricles, occurring in scattered foci of irregular size and distributed largely in the course of the vessels. The sino-auricular node or bundle was not affected. No change was found in the nerve-trunks and ganglia in the posterior walls of the auricles (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 322).

J. D. ROLLESTON.

**Extreme bradycardia** (*Austral. Med. Journ.*, 1911, i, p. 184).—W. Summons narrates a case of a boy, aged 14 years, who, on the eighth day of an attack of diphtheria, was suddenly taken with extreme drowsiness and pallor of the face. There was no cyanosis; the pulse-rate was 16 per minute. Stimulants, warmth, alcohol and strychnine,  $\frac{3}{30}$  gr. hypodermically, increased the pulse-rate to 23 per minute, but the child died in twenty-four hours.

F. R. B. ATKINSON.

**Causes of paralysis of the hypertrophied heart** (*Jahrb. f. Kinderheilk.*, 1911, LXXIV, p. 123).—Karl Frenkel describes the case of a girl, aged 9½ years, who died from aortic incompetence of rheumatic origin, with great hypertrophy of the muscular system of the heart, and considers death was due to disturbance or removal of the power of conductivity of the heart, and as a result sudden cessation of contraction of the chambers to be referred to the poisons acting as excitants of the inflammation.

F. R. B. ATKINSON.

**Malignant endocarditis in a child aged 8 years** (*Gaz. Hebd. des Sci. Méd. de Bordeaux*, 1911, xxxii, p. 615).—Dupérié records the case of a boy who had suffered from headache and fever for ten days, and was admitted to hospital with a diagnosis of typhoid fever; the ordinary symptoms of that disease did not develop and Widal's reaction was negative. The boy wasted and the pulse became rapid, being often 140 to 160, while the temperature hardly rose beyond 100·5° F. There was a soft apical systolic murmur, but no sign of enlargement of the heart, and slight pericardial friction at the base. There was some disseminated bronchitis, and the urine contained a trace of albumin. After six weeks of fever the blood gave a pure culture of staphylococci; from this a vaccine was prepared and 100 millions were injected; a week later 200 millions were injected. The temperature became more oscillating, and a swelling was found in the left hypochondrium, at first thought to be an abscess, but later found to be an enlarged spleen. An attack of articular pains supervened after which the temperature became lower, but the liver as well as the spleen became enlarged and tender. The child became more and more cachectic, cedema appeared, then purpura, and finally death occurred after an illness of four months. The autopsy showed ulcerating vegetations on the mitral valve, great congestion of the lungs and liver, multiple infarcts in the spleen and kidneys, with acute nephritis. The case is reported on account of its unusually slow progress in a child.

J. PORTER PARKINSON.

**Purulent pericarditis in children** (*Arch. de méd. des enf.*, 1912, xvi, p. 95).—V. Imerwol.—This is a rare disease in children. Of 5971 children in the hospital for diseases of the children in St. Petersburg, it was

met with only thirteen times. It is commoner during the first month than at any other time during the first year (Bednar). Some believe that boys have a greater tendency to the affection than girls; others that both sexes are equally divided. The primary disease is very rare: secondary pericarditis is due most frequently to rheumatism, but has been met with in tuberculosis, pyogenic affections of the cord, osteomyelitis, abscess, tonsillitis, suppurative otitis, infectious diseases, kidney affections, and pulmonary diseases, as pleurisy and pneumonia. Trauma, not a wound of the pericardium, but a blow in the precordial region, is a very rare cause, and such a case is described by the author in a boy of six. A purulent pericarditis ensued, and the pus was removed by pericardotomy with a happy result. The author also describes a case resulting from purulent pleurisy in a boy, aged 9 years, cured by the same procedure. He can only find two other cases in the literature similar to the first.

F. R. B. ATKINSON.

**Severe secondary hæmorrhage following application of leeches** (*Presse méd.*, 1911, xix, p. 881).—E. Weill and G. Mouriquand.—Out of 100 cases in which leeches were applied six were affected with severe secondary hæmorrhage, occurring three and a half to fifteen hours after the primary hæmorrhage had ceased. Two of the cases were children, aged 10 and 12 years respectively, suffering from heart disease, in whom the leeches had been placed over the liver: 300 grm. of blood were lost in each case, but without any permanent ill result. The condition is attributed to the passage into the blood of hirudin, which produces a transitory hæmophilia.

J. D. ROLLESTON.

**Enlargement of the thymus; a remarkable case** (*Glasg. Med. Journ.*, 1912, i, p. 31).—A. M. Kennedy records a case in a female child, aged  $4\frac{1}{2}$  years, death taking place suddenly after many weeks of illness, during which generalised anasarca was the most prominent symptom. The enlarged thymus was the cause of death, undoubtedly by its mechanical effects; but the death, although somewhat sudden in the end, only occurred after symptoms of cardiac failure had been present for some months. The two outstanding features found post mortem were enlargement of the thymus and hypertrophy of the right side of the heart, and there could be no doubt that these represented simply cause and effect. The thymus on section showed hyperplasia of the lymphoid tissue, but the most striking feature was the angiomatous condition of the tissue. The clinical history and post-mortem findings are very fully described.

J. ALLAN.

**Congenital myxœdema; cystic goitre with feeble mentality** (*Med. Record*, 1912, i, p. 705).—H. B. Sheffield.—(1) Girl, aged 6 months, normal at birth, with all the signs of cretinism in a well-marked form. Thyroid gland substance improved the condition considerably, but the idiocy invariably returned when the remedy was withdrawn. (2) Girl, aged 13 years, with a large cystic goitre and signs of idiocy. The author was unable to decide whether the case was one of hypo- or hyperthyroidism, as while her bodily development was good and hence precluded a deficiency of thyroid, her gradually increasing mental weakness simultaneously with progressive degeneration of the thyroid gland warranted such an assumption. Thyroid gland administered internally had no beneficial effect.

F. R. B. ATKINSON.

**A form of infantile dysthyroidism** (*'La Pediatria,'* 1912, xx, p. 117).—**F. Franzi** describes the case of an infant, who showed no signs of disturbance while breast-fed, but who, immediately on commencing artificial feeding, had an intractable dermatitis, which only disappeared on resuming breast-feeding. When ultimately weaned seven months later the dermatitis reappeared, and yielded only to thyroid medication. The rational explanation of this fact, which until recently would have seemed extraordinary, lies in altered thyroid function. In the case reported there was evidently delay in development, and hence in thyroid function. In the first ten months of maternal suckling the infant took in with the mother's milk substances of thyroid origin which sufficed for its organic needs, but when the mother's milk failed the phenomena of infantile dysthyroidism due to instability of thyroid function made their appearance. On being suckled by a wet-nurse it again obtained thyroid substances, and the dermatitis disappeared. After the final weaning the condition was the same as at the first, because the thyroid had not yet been able to acquire its stable equilibrium, which, however, was soon effected by opotherapy, and the indication that it had been effected was the disappearance of the dermatitis. With increasing age the instability of the thyroid function disappeared, and the infant enjoyed perfect health.

VINCENT DICKINSON.

**Endemic myxœdema** (*'La Clin. Infant.,'* 1911, ix, p. 713).—**M. L. Revillet** reviews the conditions which have led to a complete disappearance of cretinism in the Canton d'Allevard. The predisposing causes were goitrogenous water and heredity, aided by the severe cold and absence of wind in the high valleys. The determining causes were the unhealthy houses with the humidity, darkness, and fœtor of rarified air polluted by fœcal emanations. Healthy dwellings and heliotherapy have been effectual in stamping out the disease.

VINCENT DICKINSON.

**Hyperthyroidism and hypothyroidism in a girl, aged 10 years** (*'Med. Record,'* 1911, II, p. 749).—**S. V. Haas** showed to the New York Academy of Medicine the above case, which presented (1) hyperthyroidism, or exophthalmic goitre, with (a) exophthalmos, (b) enlarged thyroid, (c) hyperexcitability, (d) moderately rapid pulse, (e) loss of weight; (2) hypothyroidism, myxœdema, (a) mental and physical dulness, (b) rapid increase of adipose tissue, (c) pallor; (3) stage of balance, a disappearance of the myxœdematous symptoms though the weight was increasing.

F. R. B. ATKINSON.

**Thyroiditis in scarlet fever** (*'Monatsschr. f. Kinderheilk.,'* 1910, ix, p. 560).—**J. Bauer** records three cases, two in boys, aged 10 and 13 years, and one in a girl, aged 18 years, which occurred on the tenth, seventeenth, and forty-sixth days of scarlet fever respectively. In each case the attack of scarlet fever was very mild, the swelling of the thyroid of moderate degree, and accompanied by no symptoms beyond a slight rise of temperature.

J. D. ROLLESTON.

**Parathyroid glands and infantile tetany** (*'Arch. of Ped.,'* 1911, xxviii, p. 892).—**R. W. Bliss**, working in von Pirquet's laboratory at Breslau, removed the parathyroid glands in thirty-five cases, ranging from birth to nine years. Twenty-two, including two cases of tetany, were examined microscopically. Pathological changes were found in seven cases,



blood cysts in three, and increased vascular and connective tissue in four. In the former, who were all suffering from broncho-pneumonia, tetany could be excluded. Of the two cases of tetany, one with four parathyroids, and the other with three, one presented increased vascular and connective tissue, but neither showed any hæmorrhages in the glands (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, pp. 515-6). J. D. ROLLESTON.

**Infantile spasmophilia and parathyroid glands** (*'La Pediatria,'* 1912, xx, p. 16).—G. A. Petrone and C. Vitale conducted some researches by administration of parathyroidine in children by mouth and by hypodermic injection, and by experimental removal of the parathyroid glands in rabbits. There are two objections to the theory that infantile spasmophilia depends on insufficiency of the parathyroid glands, first because investigation of the parathyroids gave negative results in children who had died of spasmophilia (Thienich, Ravenna, etc.), and secondly because parathyroid opotherapy gave negative results (Escherich, Concetti, Longo). In answer to the first objection it must be admitted that the parathyroids might be functionally inefficient without there being any anatomical or pathological change noticeable by our means of investigation. With regard to the second, MacCullum and Voegtlin state that opotherapy, if inactive by mouth, need not be so subcutaneously. The actual experience of the authors has proved the inefficacy of parathyroidine in four children affected by spasmophilia, in two of whom it was given by mouth and in two hypodermically. Escherich has formulated the theory that the secretion of living parathyroid glands may be different from that prepared in the laboratory from removed glands. The authors' experience lends some support to this theory, since they demonstrate the inefficiency of parathyroidine given hypodermically in rabbits which showed electro-galvanic hyper-excitability and other symptoms of irritability, due to parathyroid insufficiency produced by removal of the two parathyroids on one side and by crushing and puncture of those on the other.

VINCENT DICKINSON.

**A case of tetany** (*'Arch. Brasil. de Med.,'* 1912, II, p. 213).—Mello Leitão records a fatal case in a female child, aged 4 months. At the necropsy the parathyroids showed no sign of old or recent hæmorrhage, but some degeneration of the colloid was noted. There were vacuolar degeneration of the clear cells, absence of oxyphile cells, and pericellular cirrhosis. The lesions in the thyroid were much more marked. The gland showed an exaggerated production of interstitial tissue with perivascular sclerosis. The colloid was degenerated and in some places absent. Leitão fully discusses the whole subject of tetany, which he regards as a dysthyromythyro-parathyroidism. A bibliography of 170 references is appended.

J. D. ROLLESTON.

**The calcium metabolism in infantile tetany** (*'Am. Journ. Dis. Child.,'* 1912, III, p. 15).—Herman Schwartz and Murray H. Bass give a summary of the literature on this subject and record their own investigations of the case of a girl, aged 1 year. Metabolism experiments were made—(1) when manifest tetany was present; (2) when the tetany was markedly improved; (3) when its only trace was a slight facial irritability. They came to the following conclusions: (1) Sufficient data are not available to state definitely the absolute and percentage figures for calcium retention in the normal child; (2) the calcium in their case, as compared

with the few normal cases on record, did not seem diminished; (3) from Cybulski's and their cases it appeared that the calcium retention improves as the tetany disappears.

FREDERICK LANGMEAD.

**Tetanism** (*Med. Record*, 1912, I, p. 846).—**Herman B. Sheffield** denotes by this term "a peculiar form of more or less *continuous* muscular hypertonicity occasionally observed in marantic infants under three months of age." He considers it represents a symptom-complex based upon a pathological entity different from any form of "spasmophilia" hitherto described. It is associated with faulty assimilation of food and probably results from intestinal auto-intoxication. He records the case of a baby, weighing a little over 3½ lb. at eight weeks of age. Its jaws were tightly set together and it required considerable manual force to separate them. During the acme of the spasm the head was sharply retracted. The forearms were firmly flexed upon the arms, whilst the hands were clenched, the fists coming into close contact with the clavicles or chin. Opisthotonos existed. The abdominal muscles were extremely tense. The legs were rigid, sometimes crossed. Partial relaxation occasionally occurred, but handling always increased the spasm. He considers "tetanus" was excluded because the baby could "nurse" without difficulty. The spasm was too continuous for "tetany" and the "triad of tetany" was absent. The child recovered. Death, however, is more commonly due to the gastro-intestinal derangement or complications. (It will be noted that the account of this case is characteristic of one of tetanus neonatorum. The only reason given by the author for differentiating it from tetanus is the fact that the baby took its food well. Its jaws, however, are stated to have been "tightly set together.")—  
F. L.)

FREDERICK LANGMEAD.

**Splenomegaly (Gaucher)** (*Amer. Journ. Dis. Child.*, 1912, III, p. 28).—**M. S. Reuben** reports three cases in a family. (1) Girl, aged 8 years. Progressive enlargement of abdomen since four years old. Liver 10 cm. below ribs. Spleen filled left iliac fossa. Red cells, 3,400,000; white cells, 6,200,000; hæmoglobin, 68 per cent.; differential count normal. Sudden death; no necropsy. (2) Girl, aged 9 years. Pain in abdomen for last year. Liver edge 2 in. below ribs. Spleen not enlarged. Red cells, 4,344,000; white cells, 6000; hæmoglobin, 75 per cent.; differential count normal. (3) Boy, aged 4 years. Large liver and spleen noted one year previously. Red cells, 2,208,000; white cells, 5000; hæmoglobin, 35 per cent. Reuben has collected thirteen other cases from literature, and comes to the following conclusions: (1) Splenomegaly (Gaucher) is a distinct disease. (2) It is probably congenital, and usually affects more than one member of the same family. Females are more susceptible than males (three to one). (3) The first symptoms may appear as early as the third year or as late as the twentieth. (4) The spleen becomes enormously enlarged, and is followed by a less extensive enlargement of the liver. (5) Vague abdominal pains are present. There is brown, yellow, or bronze pigmentation of the face and hands. (6) Hæmorrhages, if present, are not severe. (7) The disease is slowly progressive, and is marked by periods of temporary improvement. The disease may last from three to thirty-six years. (8) The majority die of intercurrent diseases. (9) The necropsy shows an endothelial hyperplasia in the spleen, liver, lymph-glands, and bone-marrow.

J. D. ROLLESTON.

**Primary spleno-hepatomegaly in brother and sister** (*Med. Record*, 1911, II, p. 913).—**Sheffield** reports instances of primary spleno-hepatomegaly occurring in the second and fourth members of a family of four, the first and third children being unaffected and healthy. In both cases the Wassermann reaction was negative, and there were no evidences of syphilis. Swelling of the abdomen was the first sign of illness. Excellent illustrations of the patients are given. REGINALD MILLER.

**On infantilism** (*Allg. Wien. med. Zeit.*, 1912, LVII, pp. 71, 83).—**Wirschubski** describes a case of cretinism in a Jewess, aged 27 years, and discusses the possible causes of infantilism in general. He denies that every case is due to some deficiency of the thyroid. The sexual organs, the medulla oblongata, the pituitary body and perhaps other glands influence growth. Many cases should receive polyglandular treatment. Apart from the ductless and other glands it is possible that there may be in some cases a primary affective arrest of the brain itself. M. D. EDER.

**Precocious menstruation** (*Osp. d. Bamb. d. Milan.*, 1912, I, p. 17).—**G. Raffaelli** records a case in a child, aged  $4\frac{1}{2}$  years, in whom menstruation had commenced two months previously. The periods were preceded by abdominal pain, and lasted about eight days. There had been no previous illnesses. The intelligence was above the average for her age; the height and weight corresponded to those of a child of six years. There were a few hairs in the axillæ and the areolæ were well marked, but the mammary glands were not developed. The mons veneris was well marked and covered with scanty hairs about 1 cm. long. The labia resembled those of a child of ten to twelve years. The vaginal orifice admitted the little finger. A review of the literature is appended. J. D. ROLLESTON.

## Otology, Rhinology, and Laryngology.

**Cerebellar and cerebral abscess of otitic origin** (*Journ. de Méd. de Paris*, 1912, XXXII, p. 171).—**Savariaud** and **de Lamothe** describe two cases, aged 14 years and  $8\frac{1}{2}$  years respectively. They insist upon the necessity of examining the ears in children presenting cranial symptoms, and of systematic search for such manifestations in all patients with chronic middle-ear suppuration before operating. MACLEOD YEARSLEY.

**The pathology of deaf-mutism** (*New York Med. Journ.*, 1912, I, p. 1189).—**G. Hudson Makuen**, in a "critical review," divides mutism into three groups: (1) Deaf-mutism, (2) psychic mutism, and (3) idiopathic mutism. He urges the necessity of correlating and comparing post-mortem findings with a thorough clinical examination during life, and comments upon the extraordinary dearth of reliable post-mortems on deaf-mutes in America. What little histological work has been done has failed utterly to point the way toward any definite conclusions with reference to the ætiology of the affection and to its treatment. Such work does not enable us to distinguish even between so-called congenital and acquired deaf-mutism, and there is very little to be found in the pathological processes themselves which is suggestive of the particular disease or diseases which caused them. MACLEOD YEARSLEY.

**Results obtained in deaf and deaf-mute persons by re-education of the hearing** (*Gaz. des Hôp.*, 1912, LXXXV, p. 904).—**Laimé** describes



the methods of Lermoyez and Urbantschitsch for re-educating the hearing. The means used should be speech principally. The method has, however, two faults: it is painful for the person applying it, and it takes a long time and is trying to the patience of the patient. Laimé has, therefore, used a microphonic amplifier, which augments the sound in the desired proportion, so that there is no need to elevate the voice. With this instrument he claims rapid results, if used prudently and progressively. Four cases are described.

MACLEOD YEARSLEY.

**Vaccine therapy in diseases of the ear, nose and throat** ('*New York Med. Journ.*,' 1912, I, p. 273).—**Dabney**, after narrating several cases, concludes that vaccine therapy is a useful supplement to other methods of treatment, and should not be considered as an infallible substitute. Its use may prevent unnecessary suffering, loss of time and expense.

MACLEOD YEARSLEY.

**The naso-pharynx and its relation to other regions** ('*Clin. Journ.*,' 1912, xxxix, p. 377).—**Macleod Yearsley** draws attention to the fact that the naso-pharynx is a meeting place of numerous passages, and, as such, a highly important anatomical locality for the reception or dissemination of infections. These are discussed with some detail. He draws attention to the field opened up by the introduction of Holmes's electric naso-pharyngoscope and Yankauer's naso-pharyngeal speculum, whereby diagnosis and treatment are rendered more easy. He also refers to the suggestion of Barraud, of Lausanne, that adenoids are often due to faulty artificial feeding.

AUTHOR'S SUMMARY.

**Dermoid cyst of nose** ('*Echo méd. du Nord*,' 1912, xvi, p. 185).—**Swynghedauw** and **Bertin** reported a case in a child with an ulcer of several months' duration in the midline of the nose. Owing to its persistence it was suspected to be syphilitic, especially as the mother showed signs of syphilis, but only slight improvement resulted from mercury and none from "606." On further examination the writers found 1 cm. below the ulcer a fistulous opening which had been present since birth, and after dilating it expressed some sebaceous matter.

J. D. ROLLESTON.

**The necessity of orthodontic interference in malformation of the dental arches and maxillæ** ('*Cleveland Med. Journ.*,' 1911, x, p. 988).—**Casto** discusses the relation of the development of the upper maxillæ to the nasal septum and nasal fossæ and the relation of the occlusion of the teeth and their proper use to the growth of the upper maxillæ. He concludes that, whenever a deformity in the maxillæ and dental arches is recognised, orthodontic interference is advisable as early as possible.

MACLEOD YEARSLEY.

**The tonsils in childhood** ('*Amer. Journ. Dis. Child.*,' 1912, iii, p. 277).—**J. Gordon Wilson** discusses the function of the tonsils, especially in children. He points out that the palatine tonsil always retains a communication with the pharynx, especially in the Carnivora; that developmentally it is not a lymph-node, and that there is good ground for the belief that its physiological activity is of greatest importance in early life. At the same time there is no evidence that it is a recessive organ in man. He distinguishes in the life-history of the tonsil two periods: (a) period of functional activity before puberty; (b) after puberty, when it persists chiefly as an aggregate of lymph-nodules which tend to atrophy. Treatment should in

the child be conservative, therefore, and in adults radical. He points out that mere fluctuations in size of a child's tonsil ought not to be regarded as a sign of disease and an indication for enucleation; they are rather to be regarded as an indication of functional activity. The tonsil probably protects the upper respiratory and alimentary tracts, and is associated directly with their well-being; therefore everything should be done to protect the tonsils during the period of functional activity. Nevertheless, they must be removed if, on account of disease or loss of function, they are a source of infection.

MACLEOD YEARSLEY.

**Chronic tonsillitis caused by a staphylo-bacillus** ('*Gaz. de hôp.*,' 1912, LXXXV, p. 241).—**J. Perquis** and **F. Chevrel** record a case in a girl, aged 8½ years, in whom the tonsils were covered with membranous deposit. In spite of vigorous treatment the tonsillitis persisted for nearly nine months. The general condition remained normal. Bacteriological examination revealed a *Staphylo-bacillus albus*, staining by Gram, and very feebly virulent for the guinea-pig and rabbit, except by intra-venous injection in large doses. The same microbe has been described by Sacquépée in various conditions, e. g. as a secondary infection in meningococcal and tuberculous meningitis, in the ascitic fluid of atrophic cirrhosis, in association with *B. coli* and staphylococcus in the intestinal mucus of acute enteritis, and with enterococcus and tetragenus in the blood of a septicæmic patient.

J. D. ROLLESTON.

**Lymphadenoma of the tonsil simulating a chancre** ('*Bull. Soc. franç. de derm. et syph.*,' 1912, XXII, p. 155).—**J. Renault** and **E. Cain**.—A boy, aged 7 years, was brought to hospital for loss of flesh and inability to speak or swallow. Examination of the throat showed an enormous hard and painless swelling of the right tonsil, the inner surface of which was ulcerated. The submaxillary and cervical glands were enlarged and painless. No Vincent's organisms, diphtheria bacilli nor *Spirochæte pallidæ* were found. Wassermann's reaction was partially positive. No improvement followed eight intra-venous injections of cyanide of mercury, and death took place suddenly from suffocation. There was no autopsy, but a portion of the tumour removed before death showed it to be a typical lymphadenoma of the tonsil.

J. D. ROLLESTON.

**Complications of tonsillitis** ('*Presse méd.*,' 1912, XIX, p. 442).—**Jambé**.—An epidemic of streptococcal tonsillitis broke out in a girls' boarding school. Most of the cases ran an ordinary course, but two deserve special mention. The first was followed by pericarditis, which cleared up without further complication. The second case was followed by a relapse. Two days after recovery symptoms of appendicitis occurred, rapidly followed by those of generalised peritonitis. The diagnosis was confirmed by laparotomy, and examination of the pus showed streptococci. Death took place shortly after the operation.

J. D. ROLLESTON.

**Anæsthesia in tonsil enucleation** ('*New York Med. Journ.*,' 1912, I, p. 386).—**Garthwaite-Fisher** advises local anæsthesia by cocaine and adrenalin, in the proportion of 1 gr. of the first to ½ drm. of the second in 7 drm. of sterile water. This solution is injected at different points round the tonsil after preliminary swabbing with a 10 per cent. solution of cocaine.

MACLEOD YEARSLEY.

**Recurrence of adenoids in children** ('*La Clin. inf.*,' 1912, X, p. 265).—**V. Chambellan** says that out of 2983 cases operated on by him there were 147 cases of recurrence. These may be placed in three groups accord-

ing to the number of recurrences; thus out of 147 cases, 125 recurred once, 21 twice, and 1 only three times. In a large majority the recurrence took place at the end of eighteen months to three years; the extremes were six months and five years. Contrary to the general belief recurrences take place less frequently in younger children; the author has never seen it before six months. One should not, therefore, hesitate to operate on young infants for fear of an early recurrence. The author has known cases operated on at the age of thirteen or fourteen years have recurrences at the age of from sixteen to nineteen years. Means should be taken to prevent recurrence by treatment of lymphatism and chronic posterior nasal catarrh.

VINCENT DICKINSON.

**The relation of adenoids to recurrent vomiting** (*Am. Journ. Obst.*, 1912, LXV, p. 377, and *Am. Journ. Dis. Child.*, 1912, III, p. 212).—**J. C. Sedgwick** points out that the idea that acid intoxication is the cause of recurrent vomiting is being generally discredited. He recounts the views held by various authors. Comby considers that appendicitis is important. Others speak of membranous enteritis, neurosis, hysteria, arthritism, diminished oxidation, and hypersecretion of gastric juice as causal. The liver is considered by some, and Hecker emphasises the disturbance of fat metabolism. Aviragnet, Breton, Griffith, Misch, Irving Snow and Comby mention disturbances of the nasal pharynx in connection with these cases, and Rachford says, "Recently I have been interested especially in vasomotor coryza as an almost constant warning symptom in a number of cases." Janeway and Mosenthal state that the strongest argument in favour of its being due to an undiscovered focus of infection is the leucocytosis. Sedgwick's series of 22 cases showed adenoids in 20. The posterior cervical glands were usually enlarged. A very common prodromal symptom was sore throat or nasal discharge. Chorea, rheumatism and endocarditis were complications in three cases. Surprisingly satisfactory results had followed removal of the adenoids in some of the cases, of which he records six.

FREDERICK LANGMEAD.

**Tubercular laryngitis in an infant aged 17 months** (*Med. Press and Circ.*, 1911, II, p. 604).—**J. Middlemass Hunt**.—The symptoms were those of severe laryngeal obstruction, which the direct method of examination showed were due to swelling and œdema of the right ary-epiglottidean fold, which was also superficially ulcerated. Tracheotomy was performed and small doses of hydrarg. c. creta were given, although there were no signs nor any history of syphilis. Tubercle bacilli were found in a portion of the larynx removed. The child died about three months after the onset with signs of broncho-pneumonia. The necropsy showed general miliary tuberculosis. There was ulceration of the right ary-epiglottidean fold and ventricular band, and, to a less extent, of the left arytenoid, with prominent granulations over the ulcerated surfaces. The lesion in the lung was probably older than that in the larynx.

J. D. ROLLESTON.

**A case of retained tracheotomy tube and laryngeal stenosis** (*Austral. Med. Journ.*, 1912, XXXIV, p. 372).—**P. S. Webster** and **S. W. Ferguson** describe the case of a boy, aged 4½ years, in whom tracheotomy had to be performed for diphtheria. The tube remained *in situ* for fourteen days and was then removed for six days, when it had to be re-introduced owing to increasing obstruction. Twelve months afterwards, the tube having been worn all this time, operation was performed on the stenosis and dilata-



tion periodically undertaken by Hegar's dilators. The tube was not permanently removed for another twelve months. F. R. B. ATKINSON.

**Intubation of nearly eight years' duration; recovery** (*Giorn. internaz. d. Sci. med.*, 1912, xxxiv, p. 552).—**D. Tanturri**.—A boy, now aged 10 years, was intubated for laryngeal diphtheria with a metal tube, subsequently replaced by one of vulcanite. As he could not do without the tube, tracheo-bronchoscopy was performed under an anæsthetic and revealed infiltration of the hypoglottic region, with exuberant granulations on the posterior surface which were probably due to chondro-perichondritis of the cricoid. The stricture was gradually dilated by intubation alone, as all other operations were forbidden by the family, and a tube had to be worn for seven years and ten months, during which time Tanturri intubated the child about a thousand times. O'Dwyer's or Bayeux's introducers were used with a safety thread, and O'Dwyer's forceps or Bayeux's manual enucleation method was employed for extubation. At first the child was fed with an œsophageal tube, but afterwards took his food in the ordinary way. Laryngoscopy at present shows fixation of the right vocal cord from ankylosis of the crico-arytenoid articulation. The rima glottidis is somewhat narrow, but is sufficient for respiration. Other cases of prolonged intubation in literature are the following: Egidi 23 days, Belfiore 73 days, Knight 3 months, Charmel 6 months, Tanturri 136 days. In Bonain's case, after the tube had been worn for three years, tracheotomy was performed and death took place from acute miliary tuberculosis.

J. D. ROLLESTON.

**Foreign body impacted in the bifurcation of the left bronchus of a boy; removal** (*Austral. med. Journ.*, 1912, xxxiv, p. 408).—**R. A. Stirling** removed a small whistle  $\frac{1}{2}$  to  $\frac{3}{4}$  in. in size from the left bronchus of a boy, aged 11 years, by means of a Paterson nibbling forceps through a low tracheotomy wound. F. R. B. ATKINSON.

**Congenital atresia of the œsophagus with a tracheal fistula** (*Arch. f. Kinderheilk.*, 1912, LVIII, p. 191).—**W. J. P. Shukowsky** and **A. A. Baron** describe the above condition in a girl born at the eighth month, and also mention other cases of congenital abnormalities of the œsophagus from the literature. Congenital abnormalities of other organs are frequently present. No operative interference has ever been successful. A constant clinical symptom is vomiting of nourishment through the nose and mouth.

F. R. B. ATKINSON.

**A case of œsophageal stricture** (*Austral. med. Gaz.*, 1912, i, p. 465).—**A. G. Salter** describes a successful case in a boy, aged 4 years, in which the stricture was due to swallowing caustic soda. The abdomen was opened, and a small bougie was passed from below upwards through the cardiac orifice. The stricture was enlarged by sawing through it with silk thread passed from below upwards to the mouth. F. R. B. ATKINSON.

**Necrosis of larynx, trachea and œsophagus in scarlet fever** (*Arch. f. Laryng.*, 1911, xxv, p. 145).—**E. Oppikofer**.—Among 15,747 necropsies performed at the Bâle Pathological Institute between 1874 and 1911 were 128 cases of scarlet fever. Of these 92 showed some inflammation of the larynx, trachea and œsophagus. In 26 there was only œdema glottidis or an acute laryngitis, or laryngo-tracheitis, but in 66 cases, of which short histories are given, there was definite necrosis. Such lesions were much

more frequently found in young children than in older patients, for although the ages ranged from six months to thirty-five years, only four were older than ten years. Thirty-seven were males, twenty-seven females. In all the 66 cases the faucial lesions were also extensive; in 3 death was due to hæmorrhage from arterial erosion (in 2 cases of the external carotid, and in 1 of the lingual artery, *cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, p. 226). In 2 there was internal jugular phlebitis. In 62 of the 66 cases the laryngeal mucosa was involved to a greater or less extent; among these were 14 cases of tracheal and 2 of bronchial ulceration. In 15 of the 128 cases the œsophagus was affected. As in the larynx and trachea, the site of predilection for the necrosis was the upper part, but exceptionally the lower end was alone attacked. In 5 cases the necroses extended the whole length of the œsophagus. Histological examination showed loss of the epithelium, tunica propria, and in some cases of the muscular coat. In the peri-œsophageal tissue in addition to foci of round-celled infiltration dilatation and engorgement of the blood- and lymph-vessels were seen. Bacteriological examination, which was performed in a few cases, showed no diphtheria bacilli, but streptococci and staphylococci. Oppikofer concludes that laryngeal and œsophageal lesions are much commoner in scarlet fever than is usually supposed, and suggests that they are present in many severe cases which recover. Some cases of œsophageal stricture of unknown ætiology whose origin dates back to childhood he thinks are probably due to an old attack of severe scarlet fever. As prophylactic treatment he recommends careful disinfection of the mouth and throat several times daily in cases of scarlatinal anginosa. The paper contains a valuable survey of the literature.

J. D. ROLLESTON.

**Post-scarlatinal stricture of œsophagus** (*Centralbl. f. Laryng.*, 1910, xxvi, p. 31).—W. R. Chessin has found four such cases in the literature of the last twelve years (Ehrlich, Hacker, Boas, and Ziberbilyer), and records a personal case in a man, aged 23 years, who had suffered from gradually increasing difficulty in swallowing since an attack of scarlet fever at the age of twelve years. On passing a sound an obstruction was met 33 cm. from the teeth. Œsophagoscopy showed at this point a cicatrix with a lumen of less than 0.5 cm. Above the stricture was a small diverticulum, and below it was a number of other strictures, through which a No. 20 bougie was passed with difficulty. After about two weeks' systematic passage of bougies accompanied by œsophagoscopy the patient was able to take his food fairly well. Disease of the œsophagus following scarlet fever is due either to direct spread from the pharynx or to infection through the blood- or lymph-channels. In the present case Chessin attributes the condition to disease of the neighbouring lymph-glands. Œsophagoscopy has rendered the treatment of such cases possible without surgical operation.

J. D. ROLLESTON.

**Post-scarlatinal stricture of œsophagus** (*Wien. klin. Woch.*, 1911, xxiii, p. 681).—K. Preleitner.—A previously healthy child, aged 3 years, had a severe attack of scarlet fever, which lasted for six weeks. At the end of that time it was only able to swallow soft solids, though the appetite was good. The dysphagia increased until it could only swallow fluids. Emaciation became marked, and there was frequent expectoration of mucus. Examination showed loss of substance in the anterior pillars and uvula and cicatricial lesions of the soft palate and pharynx, and a stricture of the œsophagus 21 cm. from the teeth. This was gradually dilated until a bougie

(No. 10 English) could be passed. The child was then able to take its food well, and its general condition became much improved.

J. D. ROLLESTON.

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## Reviews.

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**SYPHILOLOGY AND VENEREAL DISEASE.** By C. F. MARSHALL, M.D., M.Sc., F.R.C.S. Second edition. London: Baillière, Tindall & Cox, 1912. Price 10s. 6d. net. Pp. 560.

DR. MARSHALL'S book is well known as a valuable work of reference and is of special interest to pædiatrists in that nearly a hundred pages are devoted to the various aspects of syphilis in children. In addition to an exhaustive description of the symptomatology of heredo-syphilis special chapters deal with heredo-syphilis of the nervous system, heredo-syphilis of the eye and ear, and syphilis of the third generation. We would invite special attention to the author's views on paternal transmission, on the contagiousity of heredo-syphilis, and to the remarkably practical advice on prophylactic and curative treatment. The tendency to regard nearly all bone diseases in children as tuberculous is noted, whereas it is pointed out that many cases are syphilitic either in nature or in origin.

The present volume, the first edition of which appeared a little more than five years ago, has been brought up to date by a critical survey of the recent additions to our knowledge. A clear account of the history and technique of Wassermann's reaction and of Ehrlich's chemo-therapy is to be found, and the treatment of syphilis by "606" is impartially criticised. A new chapter has also been added on the vaccine and serum treatment of gonorrhoea.

J. D. R.

**STUDIES IN INFANTILE PARALYSIS DURING 1910, BY THE WASHINGTON STATE BOARD OF HEALTH.**

THIS brochure of seventy pages includes the report on Infantile Paralysis in the State of Washington during 1910, by Eugene R. Kelley, Walter Gellhorn, and John B. Manning. An appendix is added dealing with infantile paralysis in the city of Seattle, by Willis H. Hall. The publication of the reports was delayed until September, 1911.

The volume follows the lines of similar publications from other State Boards. It opens with a section dealing with recent work on the disease, laying particular stress on such points as are of practical importance, especially in prophylaxis. Then follows a careful classification of the cases occurring in the district, with observations on their age and monthly incidence, relationship to temperature, rainfall, etc. Some interesting examples of possible direct contagion are recorded. No new points are brought forward.

R. M.

**TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY: TWENTY-THIRD SESSION.** Edited by LINNAEUS EDFORD LA FETRA, M.D. Chicago: American Medical Association Press.

THIS volume contains thirty-six papers, many of which have been published elsewhere and have already received notice in this JOURNAL. Metabolism in infants is dealt with by Hermann Schwartz, Raymond Hoobler, and Fife



and Veeder; ward problems are discussed by Francis Huber, Northrup, and Koplik; infectious diseases by Crozer Griffith, Matthias Nicoll, Caillé and Graham; poliomyelitis by Robert Lovett, Koplik, Lovett Morse, Flexner and Knox; infant feeding by John Howland, Emmett Holt, Lovett Morse, Heiman, Coit and Ruhräh; and pyloric stenosis by Graham and Keith Shaw and Ordway.

J. D. R.

REPORT TO THE LOCAL GOVERNMENT BOARD UPON THE AVAILABLE DATA IN REGARD TO THE VALUE OF BOILED MILK AS A FOOD FOR INFANTS AND YOUNG ANIMALS. By JANET E. LANE-CLAYPON, M.D., D.Sc. Lond.: Local Government Board Report. Price 9d.

THE main question which receives consideration in this report is concerned with the relative values of boiled and raw cow's milk in the feeding of infants. As the result of her investigations the author concludes that "such small differences as have been found in the nutritive values of raw and boiled milk have been in favour of boiled milk." Clearly in these days of the wholesale feeding of infants on cow's milk the problem here discussed is of the greatest importance. Dr. Lane-Claypon is to be congratulated upon the way in which she has marshalled the facts revealed by her prolonged investigations and upon the clearness with which she states her conclusions founded upon these facts.

The report opens with a short *resumé* of the history of the artificial feeding of infants and the introduction of boiled milk for this purpose. A wise word of warning is given on the confusion arising from the improper use of the words "boiled" and "sterilised" as applied to milk. The subject of infant feeding is throughout viewed in true perspective, the author losing no opportunity of emphasising the superiority of natural methods over artificial feeding.

The relative nutritive value of raw and boiled milk of the same species for feeding is discussed. The evidence as regards infant feeding is naturally here scanty, but experimental evidence is more plentiful. The interesting observations of Hittcher on the importance of the salt-content of the milk are given. The conclusion is reached that "there is apparently no serious loss of nutritive value produced by feeding an animal on boiled milk derived from an animal of the same species."

Passing to the main section of the report dealing with the value of raw or boiled milk of a different species for feeding purposes, the experimental and clinical results of many observers are given. The most interesting matter is to be found in the part devoted to the consideration of the results obtained by Dr. Ballin in his Infant Consultation in Berlin. These are thoroughly investigated by the author and fully reported. In such an inquiry as this it is natural that the question of the progress in body-weight should be the main point relied upon, and although this is open to some small criticism on clinical grounds, it is difficult to see how it could be avoided. Other results, such as the tendency to the production of rickets and scurvy, are, however, dealt with briefly. The author's conclusions have already been noted.

We extend a hearty welcome to this valuable report, based as it is upon so wide an investigation carried out with so much care, and venture to express the hope that it will assist in laying at rest some of the prejudices against the feeding of the infants of our towns upon boiled cow's milk.

R. M.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

OCTOBER, 1912.

No. 106.

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**Original Articles.**

**HYPERSENSITIVENESS.\***

By E. W. GOODALL, M.D.,

*Medical Superintendent, Eastern Fever Hospital, London.*

I FIND myself in a difficulty at the very outset of my remarks on what is admittedly a subject full of difficulties, a subject the discussion of which I should not have ventured to introduce had I not been requested to do so by your honorary secretaries. The difficulty to which I allude is that of definition. To the condition which is the subject of our discussion several names have been applied—to wit, hypersensitiveness, supersensitisation, and anaphylaxis. Richet, to whom we owe the last term, defined it as meaning “that curious property which certain poisons possess of increasing instead of diminishing the sensibility of the organism to their action.” Since Richet’s first experiments were made it has been shown that hypersensitiveness may be set up by substances which are not necessarily poisonous, unless a very special signification is to be attached to the word “poison.” But if the word “substance” be substituted for the word “poison” in Richet’s definition, I should accept it as being satisfactory. The difficulty to which I refer, however, is due to the fact that recently certain writers have been applying the term “anaphylaxis” to almost any exhibition of sensitiveness to the action of certain substances. Take, for instance, the

\* A paper read before the Epidemiological Section of the Royal Society of Medicine on May the 31st, 1912.

well-known serum-sickness, which so often follows the injection of an antitoxic serum into a human being. It manifests itself broadly in two forms; in one of them the symptoms appear after a lapse of several days, in the other after a much shorter interval, sometimes, indeed, almost immediately. Now it has been found that, with certain exceptions to which I shall refer later, the second variety of the sickness occurs in persons who have on some previous occasion been injected with serum, and the symptoms are of such a nature as, taken in connection with the shortened interval between injection and sickness, to suggest that the patient has been rendered hypersensitive to the serum by the first injection. According to Richet's definition it is only these patients, that is, those who are the subjects of the second form of serum-sickness, who can be said to be in an anaphylactic state. Dr. D'Este Emery, however, in an admirable critical survey of the subject, which he presented to the Section of Pathology at the annual meeting to the British Medical Association last year, wrote of the serum-sickness—and he meant both forms of serum-sickness—as being “perhaps the most important manifestation of anaphylaxis in man.”

But I should join issue with him on this point, and I would reserve the epithet “anaphylactic” for such cases as exhibited the abnormal form of serum-sickness. In my remarks, therefore, I shall employ the word in the sense in which it was meant to be used by Richet.

It was Richet who first worked experimentally at anaphylaxis. He prepared toxic substances from certain sea-anemones and mussels. He found that if he injected very small quantities of these substances into dogs no symptoms of illness followed; the animals remained apparently quite healthy; but if into the animals thus treated he injected, after an interval of several days, a second small dose of the toxic substance, a dose so small that it would produce no symptoms of illness in an untreated animal, then the dogs were extremely sensitive, exhibited toxic symptoms, and even died.

Rather more than a year after the publication of Richet's earliest researches, Arthus brought forward evidence of hypersensitiveness produced in the tissues of the rabbit. Injecting horse-serum subcutaneously into this animal he found that no noxious result of any kind followed. But when he repeated the injections at intervals, even in different localities, the tissues at the sites of the latest injections became inflamed and suppurated or sloughed. This condition is known as “Arthus's phenomenon,” and I mention it because it is met with very occasionally in the human subject. Arthus further



found that if to a rabbit once subcutaneously injected with horse serum a second injection was given intra-venously after an interval, the animal succumbed in a few minutes. The importance of the work of Richet and Arthus was forced upon the attention of other investigators, not only by its intrinsic merit, but by the light it shed upon certain phenomena which had been observed in connection with the serum treatment of disease in man, and especially of diphtheria. The antitoxic value of serum is tested by injecting it together with diphtheria toxin into guinea-pigs. If the serum is sufficiently antitoxic the animal suffers no ill-effects. It was not unnaturally thought that such animals as remained healthy might be used again for the purpose of testing serum, and many were indeed so used. It was, however, found that in most instances if a period of several weeks had been allowed to elapse between the first injection or series of injections of serum and the second, certain symptoms immediately or almost immediately set in and the death of the animal very quickly followed. It was Theobald Smith who noticed that this condition occurred only in "used" guinea-pigs; hence it has been termed "Theobald Smith's phenomenon," and its recognition was the cause of an investigation by Otto, of which the results were published in 1906. Meanwhile, somewhat similar, though fortunately not so constantly severe, effects of injections—usually second injections of serum—had been observed in human beings; and the significance of these clinical cases was pointed out by von Pirquet and Schick in 1905. It was, however, the occurrence of a few fatal cases which led to the investigation of the subject by Rosenau and Anderson, of the United States Public Health and Marine Hospital Service. Their first results were published in 1906. Since then a large number of observations, both experimental and clinical, have been made known, and the literature of the subject is already extensive.

Amongst all the facts ascertained by experiment there are some which stand out pre-eminently. First the potentiality for producing the condition of anaphylaxis appears to be confined to proteins, animal and vegetable, as, for example, serum, milk, extracts of bacterial cells. Secondly, the protein must be foreign to the animal it is proposed to hypersensitise. Thus, while you can render a guinea-pig anaphylactic by injecting into it the serum of some other animal, *e. g.* a horse, you cannot do so if you employ either its own serum or the serum of another guinea-pig.

Thirdly, between the injection of the first dose of foreign protein, called the "sensitising" dose, and the second, called the "reacting"

dose, a period of some length must elapse (latent period). It is usually longer than a week. Fourthly, the reacting protein must be the same as the sensitising protein. For example, if you have sensitised a guinea-pig with horse-serum you can make it react only with horse-serum; it will not react if you use, say, goat-serum on the second occasion. There are, however, exceptions to this rule, especially in respect of the serum of nearly related species. Thus a guinea-pig can be sensitised to horse-serum by treating it with the serum of a donkey. Fifthly, while animals are most readily sensitised by injecting the protein subcutaneously, intra-venously, or into the brain, it is important to note that anaphylaxis can be induced by feeding them on foreign proteins. Sixthly, the symptoms of anaphylaxis vary not only in different species of animals, but even in animals of the same species. But they do not vary with the sensitising protein. The rapidity with which they appear is influenced by the method employed for giving the reacting dose. Amongst the most common symptoms are: signs of itching or irritation of the skin, cutaneous œdema, rapid and irregular respiration, death by asphyxia, believed to be due to spasm of the muscles of the medium-sized bronchi, pulmonary emphysema, rapid pulse, pulsation of the heart long after cessation of respiration, fall of blood-pressure, collapse, a fall of the temperature, vomiting and diarrhœa, muscular spasms, paralysis, convulsions. Seventhly, passive anaphylaxis can be conferred upon an animal. Thus, if the serum of a guinea-pig which has been sensitised with horse-serum be injected into a normal guinea-pig the latter will react to horse-serum after a comparatively short interval, an interval shorter than the latent period mentioned above. Eighthly, the young of a female animal which has been sensitised are in a condition of anaphylaxis to the sensitising protein, whether the mother has been sensitised before or after conception. That is to say, anaphylaxis may be congenital. Ninthly, according to Rosenau and Anderson, guinea-pigs can be rendered refractory to the reacting dose if they receive a series of doses of the protein daily for ten or more days. Tenthly, and lastly, the duration of anaphylaxis appears to vary with the animal.

So far I have been speaking of the facts of anaphylaxis as they have been ascertained by experimental investigation in animals; I will now say a few words on the condition as it has been observed in man. Nearly all the facts of human anaphylaxis have been obtained from observations made of the serum and vaccine treatment of disease, and especially of the former. As soon as the antitoxin treatment

of diphtheria was introduced it was noticed that a certain number of the patients who received the serum exhibited symptoms which it was clear were caused by the serum. The chief symptoms of this serum-sickness, as it was subsequently termed by von Pirquet and Schick, were fever and rash. Occasionally, also, there was arthritis, usually not severe. An experience of some thousands of cases extending over nearly eighteen years shows that about one third of the patients suffer from a rash, usually with, but occasionally without fever, and that about one in every six of these cases also had arthritis. It is very rare to get arthritis without a rash. An attack of serum-sickness will follow, and frequently does follow, a single injection of serum. I have said that about one third of the persons injected suffer from serum-sickness; that is to say, that one third are susceptible to the effects of the serum—reveal an idiosyncrasy to it—while two thirds do not. Further, in the production of serum-sickness the peculiarity of the serum has to be considered, for it is a matter of common experience that some serums will give rise to an attack of serum-sickness in a much larger proportion of the persons treated than do other serums; and again, the severity of the attack of sickness varies not only with the persons attacked, but also with the serum. Another point to be noted in connection with the serum-sickness is that between the injection of the serum and the onset of the illness there is an interval which is quite free from any symptoms of this particular disease. This interval has been called the incubation period, but I think it would be better to call it the latent period, for I am much inclined to doubt whether it is strictly analogous to the incubation period of an infectious disease. The length of the latent period is commonly eight to sixteen days; it may be as short as three or as long as twenty-one days; I have known it to be even longer, but it is very seldom shorter than six days; that is the important point to bear in mind. I am speaking now, be it remembered, of cases in which there has been only one injection, or series of injections in the course of four or five consecutive days. So far in respect of the ordinary form of serum-sickness, which may be termed the normal reaction of horse-serum in the human subject; though unpleasant it is rarely serious.

As time went on, after the introduction of the serum treatment of diphtheria, cases were met with in which the patient was suffering from a relapse or a second attack of diphtheria. Naturally he was subjected to the serum treatment, and it was then observed, in respect of some of the cases, that the patient underwent an attack of serum-sickness of quite an unusual character; and it was further



observed that an unusual attack of the sickness was confined to persons who had been treated with serum in the primary attack of diphtheria. The unusual nature of the serum-sickness may be shown in more than one way, but there are three chief varieties. In the first the latent period is normal, but the symptoms are severe beyond the average, and uncommon symptoms may be present, such as faintness, intra-thoracic and abdominal pain, invasion of the mucous membrane by the rash, and rapid evolution of the symptoms. In the second the latent period is shorter than normal, being from one to five days; the symptoms may or may not be unusually severe. In the third the latent period is very short, rarely longer than six hours, and not infrequently a few minutes, and the symptoms are prone to be of unusual severity and character; a high temperature; rapid evolution of the symptoms and invasion of the mucous membranes by the rash, cyanosis, hurried breathing, a rigor, even convulsions and collapse.

From the hypothetical point of view the most important features of these unusual attacks are the reduction of the latent period and the rapid evolution of the symptoms. The second and third varieties described above have been called by von Pirquet and Schick the "accelerated" and the "immediate" reaction respectively. And it was pointed out by these observers that an abnormal reaction never took place in a person who was reinjected within a certain period from the primary injection, and that this period was never shorter than the average latent period. This is the chief fact that shows the abnormal reaction to be an anaphylactic phenomenon. Just as not every person injected with serum undergoes an attack of serum-sickness, so not every reinjected person shows the anaphylactic reaction. During the fifteen years 1897 to 1911, 181 persons, mostly children, have come under my observation who have been treated with serum on two separate occasions for a primary attack and for a relapse or second attack of diphtheria. Of these, 116, or 64 per cent., underwent an attack of serum-sickness after the injection given for the relapse or second attack, that is, nearly double the average number of cases which follow a primary injection. In 89 of the 116 the latent period was shorter than six days.

I have stated above that in animals the duration of the anaphylactic condition has been found to be variable. It is believed to last the lifetime of a guinea-pig. I do not know how long it lasts in man; perhaps for his lifetime. I have recently had under my observation a youth who was injected with serum in the Eastern Hospital on October the 15th, 1904, when he was aged 10 years. After a latent

period of eighteen days—rather longer than usual—he underwent an attack of serum-sickness (fever, rash and joint pains). On December the 7th, 1911, that is to say, 2609 days after his first injection—upwards of seven years—he was reinjected with serum for a second attack of diphtheria. Half an hour after the injection a rash came out on his face and remained out till the next day, and four days after the injection appeared the first symptoms of a severe attack of serum-sickness (fever, rash and arthritis). Amongst my cases the shortest interval between the first and the second injections, in which the latter has been followed by an abnormal reaction, has been eighteen days.

Besides these instances of anaphylaxis in persons who have been sensitised by a previous injection of serum, there are now a considerable number of cases on record in which the anaphylactic phenomena have occurred after a single primary injection of serum. It is this group which has furnished examples of the immediate reaction of the most severe character. Some of them have been fatal. I was fortunate not to have a fatal case amongst those I referred to above, who were treated twice with serum; but three or four of them gave me much anxiety for a short time. I shall say something later about these cases of anaphylaxis after a primary injection.

After this very brief account of the facts of hypersensitiveness, as they have been elicited by experiments on animals and by observations on serum-sickness in man, I pass to a consideration, which must also be brief, of certain problems which it has been hoped, if not expected, would be illuminated by the facts mentioned. It will, however, be necessary first to say a few words on the sequence of events which terminate in the anaphylactic state. To explain the phenomena almost as many hypotheses have been put forward as there have been investigators. There are at least three distinct views. First, there is Courmont's suggestion that the injection of the foreign protein leads to the absorption of an inherent protective substance, the loss of which leaves the animal defenceless against a second injection of the protein. The second is that propounded by Gay and Southard, who believe that the foreign protein contains a substance (anaphylactin) which sensitises the cells of the body, but is slow in its action and does not produce toxic symptoms. The foreign protein also contains other substances of a toxic nature, which are rapidly eliminated from the body so that they have disappeared by the time the cells have been sensitised by anaphylactin. On a second injection, however, of the foreign protein, the

fresh supply of these substances acts at once upon the sensitised tissues, and the phenomena of hypersensitiveness are produced. The third, and most favoured hypothesis, is that which supposes the evolution of antibodies. This is the view which best harmonises with Ehrlich's side-chain hypothesis.

The introduction of the antigen, in this case a foreign protein, gives rise to the slow formation of an antibody; and some reaction between the antibody, newly formed and continuing to be formed, and the antigen, or some constituent of it, causes the normal reaction seen in the human subject. When a fresh amount of antigen is introduced, there is a rapid combination or reaction between it and the antibody, and the immediate reaction is the result. The accelerated reaction can be explained by the supposition of von Pirquet and Schick, namely, that besides the production of antibody, a result of the primary injection of the antigen is such an alteration of the tissues as to allow of a more rapid formation by them of an antibody, when fresh antigen is introduced, than after the primary injection. To this altered state of the tissues the term "allergy" has been applied.

Has the acquisition of the facts of anaphylaxis brought us nearer the solution of any of the problems which interest especially the members of this Section?

The hypersensitive condition reminds us of the negative phase which was discovered by Sir Almroth Wright to be induced by, and to be present very soon after, the injection of bacterial vaccines. During this phase the bactericidal power of the blood is diminished. The phase, however, is transient, and is succeeded by a positive phase of much longer duration, in which the bactericidal power is higher than it was before the introduction of the vaccine. But the negative phase may be prolonged by reinjection of the vaccine before its termination, and by the injection of large amounts of vaccine.

Richet believes that anaphylaxis is a step towards the production of immunity; and in this view he is supported by Anderson and others. The animal has been brought to such a condition as to offer a very rapid and active resistance to the sensitising toxin; and this condition may be regarded as being even advantageous to the animal. I should mention that, at any rate in some animals, if the animal has survived the effects of the reacting dose, subsequent doses have no effect. The animal is then said to be in a condition of anti-anaphylaxis. I take it I am right in supposing that this is a condition which is of the nature of immunity, of course only in



respect of the particular protein employed. But it is very difficult to reconcile Richet's view with the facts of anaphylaxis as it appears in the guinea-pig, or even in the human subject. The primary dose of protein hypersensitises the guinea-pig to such a degree that it frequently succumbs to the reacting dose, and the animal never has a chance of becoming immunised. Moreover, in that animal the condition is by no means transient. It must also be remembered that very small, even minute doses of the protein, are efficacious for the purposes of sensitising and of reacting, and that for each of these purposes one single dose is sufficient. To produce immunity to the action of the protein, either a number of successive doses at short intervals (a day or so) during a considerable period are necessary, or the animal must receive three injections of the protein at longish intervals and survive the effects of the third. I agree, therefore, with Dr. Emery in rejecting Richet's views.

A similarity between the course of events and the symptoms of serum-sickness in man and those of an attack of certain of the acute infectious diseases has suggested that the latter may be explained by the former. Between the injection of the foreign protein (horse-serum) and the onset of the symptoms of serum-sickness is an interval of a week or two's duration, a latent period which recalls the incubation period of many of the acute infectious diseases. In fact the latent period of serum-sickness is often called the incubation period. Again, the symptoms of serum-sickness resemble in several points those of certain of the acute infections. These are a rash, fever, and often glandular enlargements. Dr. Emery well summarises the anaphylactic hypothesis of the development of an attack of an acute infectious disease as follows, after having first drawn attention to the fact that a bacterial protein will act as a sensitising agent: "A few bacteria gain access to the body and some of them disintegrate, so that their proteins, or some derivative thereof, gain access to the tissues and render them sensitive. The remainder of the invaders have a prolonged tussle with the defences of the body, but after a time they grow to such an extent that they give off enough protein to constitute a reacting dose, and symptoms develop. The period which this takes would constitute the period of incubation, which, I think, cannot be accounted for satisfactorily on any other theory." It is clear, however, from a remark made later in his paper, that this hypothesis does not completely satisfy Dr. Emery. I confess it does not satisfy me. In my opinion the resemblance between serum-sickness and an attack of an acute infectious disease is much more apparent than real. To me it seems to be a fatal objection to

the hypothesis that whereas after an attack of an acute infectious disease the individual is immune to another attack usually for a considerable length of time, the person who has undergone an attack of serum-sickness often remains in an extremely sensitive condition in respect of another injection of the protein which caused the sickness. Moreover, clinical experience goes to show that relapses and second attacks of the acute infectious diseases, far from being more severe than the primary attack, as they should be on the anaphylactic hypothesis, are as a rule less severe.

The occurrence of a rash in serum-sickness is also another superficial resemblance between it and certain of the acute infectious diseases. The most common rashes of serum-sickness are urticaria and a variety of erythema multiforme, frequently erythema marginatum, to wit, acute infectious erythema, a disease I have never seen. It is said to be infectious and epidemic, but its occurrence has so far been rare. It is quite true that serum-sickness rashes are not infrequently described as being morbilliform and scarlatiniform, but I think that often this brief description is given to save the writer's pen. In my experience these rashes are very rarely quite like those of measles and scarlet fever. And I never yet saw an antitoxin rash that bore the slightest resemblance to the eruptions of smallpox and chickenpox. But for another fact, to be mentioned presently, I should not be disposed to attach any importance to the absence of a close resemblance between the rashes in question; bearing it in mind, however, I think the differences are worth noting.

Though I have not derived much satisfaction from a comparison of the phenomena of anaphylaxis and an attack of an infectious disease, yet I am far from believing that clinical medicine does not present us with instances of a condition which is akin to, if not the same as, hypersensitiveness to proteins. One cannot help being struck with the similarity between attacks, and especially the more severe attacks, of the immediate reactions, and attacks of illness brought on by the ingestion of certain articles of diet, the bites of certain insects, and the inhalation of certain pollens and other matter. Now when these illnesses are accompanied by a rash it is very frequently urticaria or a variety of multiform erythema. Dyspnoea and collapse are also met with. I have mentioned earlier in my remarks that the immediate reaction occurred after a second injection of serum, but that it has also been observed to follow a primary injection. In fact, most of the severest cases belong to the last group. It is a curious fact that a large proportion of these cases of imme-

diate reaction after a primary injection have occurred in persons who were the subjects of asthma or some allied condition. Some of the victims have been peculiarly sensitive to the emanations from the horse. I have mentioned that the anaphylactic state can be transmitted, in some animals at any rate, from the mother to her offspring, and also that it can be induced by ingestion as well as by injection into the tissues of a protein. There are grounds, therefore, for assuming that one person is congenitally anaphylactic, and that another is sensitised by an article of food.

When discussing the resemblance between an attack of serum-sickness and of an infectious disease, I stated that there was one fact that led me to attach some importance to the differences between the rashes of serum-sickness and those of the exanthemata. This fact is that while the common rashes of serum-sickness (urticaria, etc.) are not those distinctive of the acute infectious diseases, they are very frequent accompaniments of the anaphylaxis-like attacks to which I have just alluded (food-poisoning, insect bites, asthma fits, and the like). Further, while the serum rashes are not those which are diagnostic of the acute exanthemata, yet urticaria and erythema multiforme are frequently met with as so-called "secondary" or "accidental" rashes during the course of an acute infectious disease; so that I am inclined to believe that if we are to find anaphylactic phenomena in these diseases we must search not so much during their early as during their late stages.

It has been suggested recently that to the more obvious examples of anaphylaxis (obvious, I mean, because of their clinical resemblance to serum-disease in man and the illnesses induced experimentally in animals) there should be added a variety of other diseases, of which the causes have hitherto escaped a satisfactory explanation, *e. g.* "fits" of various kinds (uræmic, eclamptic, etc.). To suppose that some of them were examples of anaphylaxis would be to suppose also that an individual could be sensitised by a protein elaborated somewhere in his body. But might not a protein of morbid origin, or a protein derived from some particular and limited tissue, act as a foreign protein to the tissues generally? Some evidence has been adduced to show that this may be the case. For further particulars concerning these diseases I may refer you to a paper by Dr. Batty Shaw in the 'Lancet,' 1912, i, p. 713, as I have not now the time at my disposal to enter into details concerning them.

It may be said that the recognition of such and such a morbid state as an example of anaphylaxis does not bring us nearer the explanation of the condition; it is merely a multiplication of instances.



Even if we admit this statement to be true, at any rate for the present, yet I think it will be allowed that the acquisition of this new set of facts may be of great service in the treatment and prophylaxis of disease.

## THE BLOOD-PRESSURE IN SCARLET FEVER.

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*Historical note.*—It is only within the last ten years that systematic observations on the blood-pressure in scarlet fever have been made with the sphygmomanometer, though the tension in post-scarlatinal nephritis had been examined with the sphygmograph at a much earlier date by Galabin (1873), Mahomed (1874), Gresswell (1884), and Riegel (1884).

Neu (1902) found that the blood-pressure sank during the febrile period and rose again in convalescence. Kolossova (1902), on the other hand, found that a rise occurred during the eruptive period, followed by a fall. Slatkow (1904) came to the same conclusion. Tscherepnin (1904) found that the highest blood-pressure was met with in the eruptive stage, and that the tension fell parallel with the fever. In the third and fourth weeks a fresh maximum pressure might be observed, concurrently with the onset of nephritis, the blood-pressure falling again as the nephritis cleared up.

The above four observers all made use of Gärtner's tonometer.

Federn (1903) with von Basch's instrument found that in scarlet fever, as he had also observed in cholera and malaria, the pressure was abnormally raised, and that the severer the infection the higher was the pressure. He admitted, however, that further observations were required to confirm his work. These, it may be remarked, have not been made. In convalescence he found the blood-pressure returned to normal. Injection of Moser's serum was followed by an immediate fall, though no such result attended the injection of ordinary horse serum.

Weigert (1907) used Riva-Rocci's instrument in 64 cases, employing the broad armlet in 5 cases and the narrow armlet in 59 cases. He found that scarlet fever following a normal course had hardly any effect on the blood-pressure. At most the readings were 10 mm. higher in late convalescence than during the febrile stage

and the first weeks of convalescence. The lowest record was frequently obtained in the first few days after the temperature had become normal, or in cases of protracted pyrexia in the last few days of the febrile period. Cardiac disturbance was occasionally accompanied by a moderate rise of pressure. Abnormally high readings were recorded in a fatal case of acute nephritis (*vide infra*).

Nobécourt and Tixier (1908) used Potain's instrument in 33 patients of both sexes whose ages ranged from two to sixteen years. They found that as a rule the pressure sank from the beginning of the disease until the sixteenth day, but less frequently it remained stationary, and that in a few it rose. After the sixteenth day it usually rose again, but in a few cases it remained stationary. Change of diet, the character of the attack, and the occurrence of complications had no appreciable influence on the blood-pressure.

Teissier and Tanon (1908) examined 73 cases in adults between nineteen and twenty-five years of age with Potain's instrument: 38 were males, 35 females. They found that the blood-pressure was more liable to sink in the scarlet fever of the adult than in that of the child. The fall was early, and might even be present in the pre-eruptive stage. As in children, the pressure did not appear to be influenced by the character of the diet, nor, with the exception of nephritis with massive albuminuria, in which the tension rose, were complications associated with a rise of pressure. In mild cases the fall of pressure bore no relation to the temperature nor to the pulse frequency. In severe cases in which there was considerable hypotension the extent of the fall was related to the degree of pyrexia and tachycardia. Return of the pressure to the normal might be early or late, slow or rapid.

Since the appearance of Teisser and Tanon's paper no series of observations on the blood-pressure in scarlet fever has been published, but a few writers have drawn attention to the marked hypotension likely to occur in severe forms of the disease, and have referred this symptom to acute suprarenal insufficiency on account of the concomitant symptoms and post-mortem findings (Sergent, Hutinel, Comby, Ribadeau-Dumas and P. Harvier).

Hutinel, Grysez and Dupuich have recorded cases where the administration of adrenalin has been followed by rapid rise of blood-pressure and disappearance of the other symptoms of suprarenal involvement. Pospischill, on the other hand, who, like myself, had found adrenalin of great value in diphtheria, has observed no benefit from its use in scarlet fever.

The present paper is based on observations made on 122 cases of

scarlet fever with C. J. Martin's modification of Riva-Rocci's sphygmomanometer. As in my recent study of the blood-pressure in diphtheria, the systolic pressure as measured by the disappearance of the radial pulse was alone taken into consideration. The measurements, as far as possible, were taken at the same time each day between 2 and 3 p.m., *i. e.* from one and a half to two hours after food.

*Age and sex.*—Table I shows that the great majority of the patients were children: 79 were males, 43 females. As in diphtheria, there was no appreciable difference in the blood-pressure of any two individuals of different sexes, but of the same ages and suffering from attacks of equal severity.

TABLE I.

Years.	Males.	Females.
2-3	0	1
3-4	1	1
4-5	5	3
5-6	3	2
6-7	9	6
7-8	9	3
8-9	6	7
9-10	7	5
10-11	6	6
11-12	5	0
12-13	6	3
13-14	2	2
14-15	3	0
15-34	17	4
	<hr/> 79	<hr/> 43

*Classification of cases.*—In 30 cases the blood-pressure was taken in convalescence only during the occurrence of nephritis. The remaining 92 were classified according to the character of the initial attack into severe (14 cases), moderate (26 cases), and mild (52 cases).

*The blood-pressure in scarlet fever.*—As judged by the standard of Cook and Briggs, according to which the blood-pressure of children up to two years is 75-90 mm. Hg., of older children 90-110 mm. and of young adults 130 mm., 23 of the 92 cases, or



25.0 per cent., showed from varying periods a pressure below the normal. The fall was most frequent and marked in the severe cases, among whom it occurred in 9 out of 14 cases, or 64 per cent.; in the moderate it was noticed in 7, or 26.3 per cent., and in the mild in 10, or 19.3 per cent.

Not only was the actual percentage of cases in this series showing a fall of blood-pressure decidedly less than that among my 179 cases of diphtheria, in whom it was 35.1, but the degree and duration of the fall were always much less marked. Thus in only 7 did the fall below normal exceed 10 mm., ranging in these cases from 12–30 mm., and in only 7 did it exceed a week, the duration in these cases being from 8 to 12 days. None showed a persistent rise above the normal standard of blood-pressure. In the acute stages, however, supra-normal readings were recorded in 16 cases.

On adopting Nobécourt and Tixier's plan of comparing the maximum pressure recorded during the first four days of the disease with the maximum pressure from the thirtieth to the fortieth days, when the patient could be regarded as normal, the following results were obtained: In 15 the blood-pressure was higher in convalescence than in the acute stage, in 37 it was lower, and in 25 it was the same at both periods.

From this it will be seen that in the majority of cases any change in the blood-pressure in scarlet fever was in a downward direction, in accordance with the general rule that febrile diseases tend to lower the blood-pressure.

*Date of highest and lowest blood-pressure.*—The following tables show the dates at which the highest and lowest blood-pressures were recorded. In the great majority the highest readings were obtained in the first week. There was also a preponderance of the lowest readings in the first week, though a large minority were found in the second week also.

TABLE II.—*Showing the Number of Cases in each Week in which the Highest Readings were Recorded.*

	1st week.	2nd week.	3rd week.	4th week.	5th week.	6th week.
Severe . . .	11	1	0	1	0	1
Moderate . . .	17	1	4	2	2	0
Mild . . .	39	4	6	3	0	0
	—	—	—	—	—	—
	67	6	10	6	2	1

TABLE III.—*Showing the Number of Cases in each Week in which the Lowest Readings were Recorded.*

	1st week.	2nd week.	3rd week.	4th week.	5th week.	6th week.	7th week.
Severe . . .	6 .	6 .	0 .	1 .	0 .	1 .	0
Moderate . .	13 .	11 .	1 .	0 .	0 .	0 .	1
Mild . . .	25 .	22 .	4 .	0 .	1 .	0 .	0
	—	—	—	—	—	—	—
	44	39	5	1	1	1	1

In 28 cases (4 severe, 9 moderate, 15 mild) the highest and lowest readings were both observed in the first week, the differences between the two ranging from 10 to 40 mm.

The preponderance of the highest readings in the first week is to be attributed, as in diphtheria, partly to the febrile disturbance and partly to the excitement caused by the application of an unfamiliar instrument. In support of the last explanation is the fact that among 82 cases admitted during the first week of the disease, in 59 the highest reading was the first taken. The difference between the highest and lowest records in a given case was naturally more marked in the severe than in the moderate, in the moderate than in mild cases. Thus among the severe cases the greatest difference was 60 mm., and the average 27 mm., among the moderate the greatest difference was 32 mm., and the average 16 mm., and among the mild the greatest difference was 32 mm., and the average 13 mm.

The highest reading apart from nephritis occurred in a girl, aged 15 years, convalescent from a severe attack, whose blood-pressure from the forty-ninth to the sixtieth days ranged between 130 and 150 mm. The lowest reading in a case which recovered was 70 mm., which was registered on three occasions in a girl, aged 6 years, convalescent from a mild attack. In none of the other cases which recovered did the blood-pressure fall below 80 mm.

TABLE IV.

	1st week.	2nd week.	3rd week.	4th week.	5th week.
Severe . . .	1 .	1 .	0 .	0 .	1
Moderate . .	0 .	3 .	1 .	2 .	1
Mild . . .	0 .	1 .	4 .	3 .	0
	—	—	—	—	—
	1	5	5	5	2

After deducting three fatal cases and two in which the blood-pressure never reached normal again during the period of observation, the date at which the pressure returned to normal according to Cook and Briggs' standard is shown in Table IV, from which it is seen that in the great majority the normal tension was regained by the fourth week.

*Relation of blood-pressure to pulse-rate.*—The highest pulse-rates were invariably found in the first week, and the lowest, as a rule, in the second and third weeks. The following table shows the exact figures in 85 cases :

TABLE V.—*Showing Weeks of Highest and Lowest Pulse-rates.*

	Highest pulse-rate.	Lowest pulse-rate.		
	1st week.	2nd week.	3rd week.	4th week.
Severe . . . . .	9	2	3	4
Moderate . . . . .	26	9	14	3
Mild . . . . .	50	38	11	1
	—	—	—	—
	85	49	28	8

*Comparative readings in the erect and recumbent positions.*—The readings in the erect and recumbent positions in 95 patients in whom these comparative observations were made were as follows : In 25 the readings were the same, in 21 the reading was higher in the recumbent than in the erect position, and in 49 higher in the erect than in the recumbent position, when the patient was first allowed to get up. Thus in 46 cases, or 48·4 per cent., the reversal of the ordinary relations between the records in the two positions was found. This occurrence of the so-called hypotension of effort is liable to occur in convalescence from any acute disease, and has already been illustrated in my diphtheria cases, among whom it was still more frequent, occurring in 80 out of 103 cases, or 77·6 per cent.

In every case the normal relation was finally re-established before discharge from hospital.

*Effect of complications on blood-pressure.*—My own observations serve to confirm those made by Nobécourt and others (*vide supra*), to the effect that with the exception of nephritis complications have little or no effect on the blood-pressure in scarlet fever.

Thus among 11 cases of *rheumatism*, in 7 no change whatever was



noted, and in 4 there was a transient rise varying from 2 to 16 mm.

With the onset of *cervical adenitis* in convalescence, which occurred in 13 cases, in 8 there was no change, in 3 there was a rise of from 14 to 20 mm. and in 2 there was a fall of from 4 to 12 mm.

The occurrence of *otitis* in 7 cases was not accompanied by any change.

*Endocarditis*, which was noted in 2 cases, was associated with a slight rise in one case, and by none in the other.

*Laryngitis*, a terminal phenomenon in 2 cases, had a decidedly hypertensive action owing to the obstruction to respiration, the blood-pressure rising in two days in a girl, aged 9 years, from 90 to 120 mm. In the other case, a girl, aged 3 years, the blood-pressure rose in twenty-four hours from 90 to 110 mm.

Of 7 cases of *simple albuminuria* without other signs of nephritis 2 showed no rise, and 5 showed a rise ranging from 2 to 20 mm.

*Nephritis*.—Of 33 cases of nephritis only 12, the details of which are given in Table VI, showed any hypertension, and of these 3 had a supernormal reading only while the temperature was raised. Most of the twelve cases showed more or less marked oliguria and a relatively slow pulse.

TABLE VI.

Age.	Blood-pressure.	Pulse.	Ounces of urine in twenty-four hours.	Duration of hypertension.
4 years	116	136	11-16	1 day.
6 "	140-116	140	9-26	12 days.
7 "	120	68	40-50	1 day.
8 "	120	72	30	2 days.
9 "	130-120	52	8-28	7 "
9 "	150-120	144	35-37	3 "
10 "	120	72	21	1 day.
10 "	130-120	72	11-27	10 days.
10 "	120	64	1-28	4 "
10 "	126	72	20-45	7 "
11 "	120	68	14	1 day.
12 "	120	80	32	1 "

In the remaining 21 patients, whose ages ranged from three to twelve years, the blood-pressure did not rise above 110 mm.

The absence of any rise of blood-pressure in many cases of post-

scarlatinal nephritis and the large number of cases in which only a slight rise was noted are in keeping with the fact that scarlatinal nephritis as a rule is a benign affection, the great majority of such cases—six sevenths according to Heubner's estimate—ending in complete recovery.

All my cases of nephritis recovered, and beyond drowsiness, occasional vomiting and headache, no symptoms suggestive of uræmia were observed. On this account no remarkably high readings were noted. Beyond some puffiness of the face none showed any degree of œdema. The fatal cases of scarlatinal nephritis as well as those with any considerable degree of œdema are usually cases in which the initial disease has been overlooked and the renal lesions have been neglected until irreparable damage has been done. Weigert relates such a case in a boy, aged 6 years, admitted to hospital with post-scarlatinal nephritis at the end of the third week. The blood-pressure on admission was 240 mm., and two days later 170 mm., a few hours before death. Hutinel also mentions a case with a pressure of 190 mm., accompanied by convulsive attacks which disappeared as the pressure fell.

My own observations thus concord more with those of Buttermann, Carter and Shaw, who in many cases of acute nephritis found no appreciable rise of pressure, than with those of Riegel, who stated that hypertension in scarlet fever was almost invariable.

It is of historical interest that Mahomed in 1873 distinguished a scarlatinal nephritis with a rise of arterial tension from scarlatinal nephritis without a rise, the former being due in his opinion to constipation and the latter to chill. His views, however, did not receive confirmation from subsequent writers. Astley Gresswell in his well-known monograph on scarlet fever contested this ætiology, and pointed out that it was impossible to distinguish these cases, rightly affirming that in scarlatinal nephritis there might be very marked tension or no more than occurs in health and almost every intermediate grade.

*Prognostic value of sphygmomanometry in scarlet fever.*—The early fatal cases showed a rapid fall of blood-pressure which was even more marked than in diphtheria, but it cannot be said that the use of the sphygmomanometer in the acute stage of scarlet fever any more than in that of any other acute disease with the exception of pneumonia affords information that is not given by the ordinary methods of examination. From a practical point of view its value is greater in the examination of cases of post-scarlatinal nephritis in which, *ceteris paribus*, a higher reading indicates a greater damage to the

kidney. The preservation of such records would be specially valuable to the family practitioner who has charge of the same individual during a number of years in enabling him to estimate the extent of the renal lesion and to direct his manner of life accordingly.

*Adrenalin therapy in scarlet fever.*—Hypotension being neither so frequent nor as a rule so marked as in diphtheria, the exhibition of adrenalin is seldom required in scarlet fever. In the present cases the drug was not employed. In view, however, of the encouraging results already alluded to, obtained by Hutinel and others, it is indicated in cases showing symptoms of acute suprarenal insufficiency. In many cases the suprarenal lesions are doubtless slight and transitory, but in a case of malignant scarlatina recorded by Comby in which the symptoms were repeated vomiting, diffuse abdominal pain, fœtid diarrhœa, and arterial hypotension, the necropsy showed complete destruction of the suprarenals by hæmorrhage. In such a case opotherapy, like any other treatment, is unavailing, but as the diagnosis of suprarenal hæmorrhage in the course of infectious disease cannot be made with certainty during life, signs of suprarenal involvement, especially pronounced hypotension, should be met by the administration of adrenalin or suprarenal extract.

#### SUMMARY.

(1) In a series of cases of scarlet fever the blood-pressure was found to be subnormal in 25 per cent., the extent and duration of the depression being as a rule in direct relation to the severity of the initial attack.

(2) In the great majority the highest readings were found in the first week; there was also a predominance of the lowest readings in the same week, but in a large minority the lowest readings were found in the second week. The normal tension was usually re-established by the fourth week.

(3) In the majority of cases the blood-pressure was lower in convalescence than in the acute stage.

(4) In 48.4 per cent. of the convalescent cases the readings in the recumbent and erect positions were the same, or the recumbent was higher than the vertical record until convalescence was firmly established (hypotension of effort).

(5) With the exception of nephritis complications had little, if any, effect upon the blood-pressure.

(6) In only a minority of the nephritis cases—12 out of 33—was



the blood-pressure above normal, and the hypertension was never extreme nor of long duration.

(7) Sphygmomanometry in scarlet fever, as in most of the other acute diseases, is of little practical importance in the acute stage, but in convalescence may give some indication of the severity of the renal lesion which may be of value in subsequent treatment of the patient.

(8) Pronounced arterial hypotension, especially if accompanied by other signs of acute suprarenal insufficiency, should be treated by adrenalin or suprarenal extract.

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## TREATMENT OF NOCTURNAL ENURESIS IN CHILDREN.

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NOCTURNAL enuresis is one of the commonest disorders of childhood. Physiological during the first two years of life, it becomes, if persistent, a very troublesome condition.

Each author has a theory as to its pathogeny, and seeks to bear out its correctness by statistics. From this has resulted a multitude of therapeutic measures, and Olivier rightly says, "Les traitements de l'incontinence nocturne des urines sont si nombreux, si variés, si contradictoires, que leur simple exposé sans commentaire fournirait sans doute un grand choix d'expressions techniques et sonores; mais, par contre, il serait fort pauvre d'idées pratiques."

A *resumé* of the principal theories as to the pathogeny of nocturnal enuresis will now be given. Some of the children who suffer from incontinence of urine have an imperfectly developed spinal cord and no treatment is then efficacious. Heubner believes that cases are most frequently due to a hypoplasia of the central nervous system, the condition being merely a persistence after the second year of a physiological occurrence in early life.

Pfister holds that those cases in which enuresis manifests itself after five years of age are due to epilepsy.

Guinon thinks that children who suffer from enuresis always have a nervous inheritance, and Frankl-Hochwart reports that many adults suffering from neurasthenia give a history of enuresis in childhood.

Hutinel and Merklen believe that enuresis is the pollakiuria of the sleeping child.

Freud noted hypertonus of the leg muscles in about one half of his patients, and therefore attributes the condition to hypertonus of the vesical muscles.

Excessive irritability of the nervous system as a whole or only a local reflex irritability are commonly marked.

Vandenbossche distinguishes the enuresis-spasm, which is due to over-excitability of the vesical centre in the spinal cord, from the enuresis-tic of psychic origin.

Trousseau attributed enuresis to vesical over-irritability; Guyon, on the other hand, attributed it to atony of the sphincter vesicæ.

Guinon thinks that enuresis is due to the over-excitability of the vesical fibres associated with a transitory abolition of the sphincter reflex.

Petit distinguishes three kinds of patients: (1) Children who are too lazy to rise from bed; (2) children who sleep so soundly that the warning of the distended bladder is unheeded; (3) children who dream that they are passing urine. Criado and Aguilar and Henoch also incriminate dreams, but Heubner declares that dreams are a mere symptom of enuresis.

Denis Courtade describes two varieties of idiopathic nocturnal enuresis: (1) The atonic, which results from a lack of tone in the external sphincter, with some defect in the nervous reflex mechanism; (2) the irritable, in which there is an exaggerated sensitiveness of the bladder. Both these varieties may exist in combination.

Civiale and Rochet and Jourdanet attribute enuresis to distension of the atonic bladder.

Among the reflex causes the most common are vulvitis and vaginitis in girls and urethritis and balanitis in boys. The seat of irritation may also be in the rectum, *e. g.* polypus, fissure, ulcer, and, much more frequently, infection with oxyuris. Calculi, tuberculosis and hypertrophy of the bladder have also been met with.

Ruhräh mentions the drinking of too much fluid, especially in the evening, and habitual eating of salt food.

Lewis Smith attributes nocturnal urinary incontinence to over-acidity. Clemens, on the other hand, regards alkalinity of the urine as the cause of the condition.

Children with adenoids are liable to suffer from enuresis. The statistics of Mygind, Fisher, Gruback, Allaria, Kapsaun and Cautas favour the correctness of this theory; the statistics of Lilang rather oppose it.

Leonard Williams and Hertoghe have noted thyroid insufficiency in children who suffer from enuresis.

Sydney Haas on the other hand reports a case of enuresis associated with hyperthyroidism.

Zanoni considers enuresis a functional disorder of the suprarenals.

Hammonic, studying the question of the relation of phimosis and enuresis, believes that a long adherent prepuce is a factor in the causation.

We believe that enuresis is sometimes due to an alteration of the hormone of the internal secretion of the kidney, which becomes unable to act on the bladder sphincter.



The methods to relieve the condition are as varied as the theories as to its pathogeny.

The following are the principal modes of treatment :

Among the drugs which have been employed by those who believe enuresis due to over-excitability are belladonna, antipyrin and bromide of potassium. Strychnine and hexamethylenamin are sometimes used. In order to improve the acidity alkalies are given.

Clemens recommends sodium phosphate if the urine is alkaline. Leonard Williams uses desiccated thyroid ; McCready, Hertoghe and Ruhrah have also obtained satisfactory results with this drug.

Zanoni has cured his patients by the use of adrenalin.

Psychotherapy has also been advocated.

Liébault uses hypnotism ; Farez has cured an infant, aged 26 months, by this means, and Cullère reports sixty-four cases and claims to have cured fifty and improved ten. The case of Voisin is less important because he also gave several epidural injections of artificial serum. Cullère uses simple suggestion without hypnotism.

The apparatus used by Génouville acts entirely by suggestion. It consists of two metal plates separated by a piece of absorbent cotton. These plates are connected by wires, each to one pole of a battery and a bell, and are placed in the bed beneath the child's pelvis. When the child urinates the wet cotton completes the circuit and the bell rings. The child is thus awakened, and in a few nights is frequently cured.

Hydrotherapy was used by Guersant and Underwood with favourable results.

Thure Brandt reports a series of cases cured or improved with massage *per rectum*.

Electricity has also been employed. Guyon and Ultzmann used faradic currents. Bordier advocates franklinisation, while Stevenson and Weill prefer galvanic currents. Denis Courtade claims to have effected a complete cure in 55 per cent. of his cases by electricity. All these authors support this method by statistics.

Bergé reports a case cured with enemata of bismuth subnitrate. Jaboulay has suggested retro-rectal injections of 100 to 150 grm. of artificial serum, and Cahier has recommended subcutaneous injections of 60 to 70 grm. into the perinæum, making the injection 1 or 2 cm. on either side of the mid-line.

Babinski and Boisseau report an interesting case in a girl between sixteen and seventeen years of age, whom they treated by lumbar puncture, removing 15 c.c. of fluid. After the second puncture the girl was entirely cured.

Albarran and Cathelin have suggested injections of artificial serum or of a 2 per cent. cocaine solution into the epidural space. This epidural method was used by several authors who consider it acts merely by suggestion. Dent, Valentine and Townsend used this method in the insane with good results. Loumeau claims to have cured 50 per cent. of cases; Luiz Montero, of Chili, has cured 88 per cent., and Kampsauer 75 per cent. In a series of eleven cases Bordot has cured ten, and very remarkable are also the statistics of Masmonteil, Barbier, Sisto and Saccone. On the other hand, in a series of fifteen cases Zubizarreta has cured only two.

Removal of adenoids also cures enuresis. Allaria reported 22 cases, of which 8 were cured and 3 improved; Kapsaun reported 55 cases, of which 50 were cured and 5 improved; and Cautas out of 15 cases cured 13 and improved 2. Lilang examined 50 children with enuresis, and found only 8 who had adenoids. Only 1 was cured by operation.

Hammonic performed 187 circumcisions for the purpose of curing enuresis. Of these 130 were cured.

We have employed Cathelin's method; Babinski's method, and renal opotherapy on the patients of the Children's Hospital in Rio de Janeiro. The usual drugs (belladonna, potassium bromide, and the alkalies) were always used before epidural injections, which were tried only in the refractory cases. Several children were cured by drugs; only the seven obstinate cases are reported here, of which 5 were cured with epidural injections, one with renal opotherapy, while 1 was entirely refractory.

CASE 1.—Girl, aged 12 years, admitted on May the 10th, 1911. No history of any nervous disease in the family. Full-term child. Breast-fed for twelve months. Smallpox at the age of eight years, nocturnal incontinence of urine since five years. No improvement from the use of bromides and alkalies. Urine: Specific gravity 1010; acidity ( $H^2SO_4$ ) 0.49 per cent.; no pathological elements. Twenty c.c. of artificial serum injected into the epidural space on July the 16th. When seen on July the 28th she had had no more incontinence. Lost sight of.

CASE 2.—Boy, aged 11 years, admitted October the 27th, 1911. Full-term child. No nervous disease in the family. Measles at two years. Nervous, over-irritable child. After measles began to suffer from diurnal and nocturnal incontinence. Has also moderate pollakiuria. Belladonna, strychnine, and sodium bicarbonate used successively with no improvement. Examination of urine: In April, 1910, when he was still taking alkalies, specific gravity 1009;

acidity ( $\text{H}^2\text{SO}^4$ ) 0.98 per cent. ; urea 11.12 per cent. ; chlorides 3.5 per cent. ; no albumin ; no sugar. Fifteen c.c. of artificial serum were injected into the epidural space on April the 25th. The boy has now been quite free from incontinence for one year and ten months.

CASE 3.—Girl, aged 11 years, admitted May the 21st, 1910. Full-term child. Mother hysterical. Patient is a nervous, over-irritable child, and frequently bursts into tears. She has always suffered from enuresis, and at present has also pollakiuria. No improvement from *nux vomica*, followed by belladonna and alkalies. Urine examination : Specific gravity 1015 ; acidity ( $\text{H}^2\text{SO}^4$ ) 1.05 per cent. ; urea 14 per cent. ; chlorides 5 per cent. Fifteen c.c. of artificial serum injected into the epidural space on October the 16th, 1910 ; October the 17th to 19th, no enuresis ; October the 20th to 22nd, enuresis ; 23rd, 15 c.c. of artificial serum injected into the epidural space ; complete recovery.

CASE 4.—Boy, aged 9 years, admitted on February the 14th, 1911, Full-term child. Family history unimportant. No illnesses from birth till the present time. Alkalies used with no improvement. Urine examination : Specific gravity 1012 ; acidity ( $\text{H}^2\text{SO}^4$ ) 0.47 per cent. ; urea 12.00 per cent. ; chlorides 7.00 per cent. Fifteen c.c. of artificial serum injected into the epidural space on May the 12th ; recovery.

CASE 5.—Girl, aged 7 years, admitted April the 11th, 1911. Full-term child. Has had measles. Family history unimportant. No improvement from alkalies and belladonna. Urine examination : Specific gravity 1018 ; acidity 1.20 per cent. ; chlorides 8.00 per cent. Ten c.c. of artificial serum injected into the epidural space on June the 4th ; June the 5th to 7th, enuresis ; June the 8th, another injection of 10 c.c. of artificial serum ; June the 9th to 11th, no enuresis ; 11th, enuresis ; 13th, no enuresis ; 14th to 16th, enuresis ; 17th, third injection of 15 c.c. of artificial serum into the epidural space, followed by recovery.

CASE 6.—Girl, aged 11 years, admitted on November the 10th, 1909. Full-term child. Mother epileptic, father neurasthenic. Has had measles and whooping-cough ; no adenoids ; belladonna, strychnine, bromides, and alkalies tried with no improvement. Fifteen c.c. of artificial serum injected into the epidural space on February the 14th, 1910 ; February the 15th to March the 1st, enuresis as before ; on March the 2nd a second injection of 15 c.c. of artificial serum. Enuresis persists till March the 10th, when a third injection of 15 c.c. of artificial serum is given. Enuresis continues. March the 15th, a fourth injection of 10 c.c. ; no improvement. Last epidural injection of 15 c.c. of serum on March the 25th without improvement.



On April the 10th lumbar puncture with removal of 10 c.c. of fluid (Babinski's method). Enuresis continues. On April the 20th second lumbar puncture with removal of 10 c.c. of fluid. Enuresis as before. On April the 30th a third lumbar puncture with removal of 10 c.c. Enuresis continued, and the patient was lost sight of.

CASE 7.—Girl, aged 10 years, admitted on August the 1st, 1910. Full-term child. Breast-fed for fourteen months. Mother suffers from albuminuria and slight œdema, and has had nocturnal incontinence of urine. Patient has had convulsions, whooping-cough, and asthma, nocturnal enuresis and pollakiuria since birth. Drugs were tried, with no result. Urine examination: Specific gravity 1010, acidity ( $\text{H}^2\text{SO}^4$ ) 0.96 per cent., urea 6.3 per cent., uric acid 0.266 per cent., chlorides 2.50 per cent. Fifteen c.c. of artificial serum injected into the epidural space on January the 10th, 1911. Enuresis continues till January the 20th. Subsequently epidural injections were given on the 20th, 25th, February the 1st, 3rd, and 5th, without any improvement. Lumbar puncture was next tried. On February the 20th, 25th, March the 2nd and 12th, from 5 c.c. to 10 c.c. of fluid on each occasion, without producing any effect. Finally renal opotherapy was employed. From March the 15th 10 grm. of fresh sheep kidneys were given daily, and after April the 22nd the enuresis was cured. The patient was kept on the kidney treatment till November the 25th.

Our own observations show that epidural injections of artificial serum often cure enuresis. Cathelin's method acts by suggestion.

Our experience of Babinski's method does not convince us of its value as a cure for nocturnal incontinence of urine. We would suggest that insufficiency of the internal secretion of the kidney causes nocturnal enuresis in a few cases, and that a small class of cases may be cured by the administration of fresh kidney. We would also call attention to the low density of urine, whether it be over-acid or normal in acidity.

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## Philadelphia Pediatric Society.

June the 11th, 1912, THEODORE LE BOUTILLIER, M.D., President.

**Heart Disease.**—Dr. JOHN F. SINCLAIR showed a baby, aged 2 years and 4 months, with congenital heart disease. The child's only illnesses have been three or four attacks of bronchitis. There have never been cyanosis, clubbing of fingers, œdema or hæmorrhages. Dyspnœa has never been marked. The right side of the heart was enlarged and there was a loud systolic murmur. The causes of congenital heart disease are persistence of foetal conditions, foetal endocarditis and malformation. In spite of the absence of symptoms in this case the prognosis must be guarded.

Dr. ALFRED HAND, jun., showed a girl with acquired heart disease, who was apparently benefited by Nauheim baths.

Dr. LE BOUTILLIER spoke of the contrast between these two murmurs—the loud murmur in the first, and the blowing murmur in the second case.

**Infantilism of Hertel.**—Dr. MAURICE OSTHEIMER showed an Italian girl, born January the 18th, 1905, who was admitted to the University Hospital in January, 1912, aged just 7 years. Parents, sisters and brothers are all well. She was normal until eighteen months old, except for some rickets. She was breast-fed up to twenty-one months, but also had table food. At eighteen months she had whooping cough and has failed to grow much since, though she is mentally quite what other children of seven are. She used to have many attacks of indigestion, probably due to improper food, and

occasionally an attack of diarrhœa. She would at times be very drowsy and become fatigued easily. Upon admission her fontanelle was open, abdomen large, epiphyses enlarged, legs slightly bowed, and marked sweating noted about her head. Her fontanelle is still as large as a dime. She is said to have had an excessive appetite, but this has not been noted in the hospital. She has been very pale at times. There is no enlargement of spleen or liver; and no other physical signs now. Her height on admission was 29 in. and her weight  $19\frac{1}{2}$  lb.; now she is  $30\frac{1}{4}$  in. high and weighs  $21\frac{1}{2}$  lb. Examinations of the fæces recently have not shown the characteristic bacteria of the infantilism of Herter. No excess of fats was found in the fæces. The urine, with a specific gravity of 1020, always shows a trace of albumin, but no casts have been found during the last four months. Her blood on admission gave 58 per cent. hæmoglobin, 3,440,000 reds and 11,000 whites, of which 69 per cent. were polymorphonuclears, 4 per cent. mononuclears, 6 per cent. transitionals and 21 per cent. lymphocytes; on June the 9th, 79 per cent. hæmoglobin, 4,000,000 reds and 8000 whites, of which 36 per cent. were polymorphonuclears, 16 per cent. mononuclears, 2 per cent. transitionals and 46 per cent. lymphocytes. Upon thyroid extract for three months she failed to gain; upon pituitary extract for the past month she has gained two pounds. Clinically the child seems to be a case of Herter's infantilism, now in the stage of gain. Only if she relapses and definite laboratory studies are made can an exact classification be made.

Dr. HOWARD CHILDS CARPENTER spoke of Dr. Kerley's recent use of thymus extract in a case of arrested development and asked if it had been given in this case.

Dr. OSTHEIMER replied that thymus had not yet been tried in this case.

Dr. HOWARD KENNEDY HILL said that it was interesting that the number of lymphocytes in the differential blood-counts reported were very high, resembling those found in a child of the size and appearance of this one, rather than of the age of this child.

**Osteoma of the Tibia.**—Dr. J. TORRANCE RUGH showed a specimen of osteoma removed from the upper end of the right tibia of a girl, aged 16 years. There was absolutely nothing in the family or personal history which bore a casual relationship to the growth. She had first noticed enlargement just below the knee over a year ago, but had had no discomfort until within the past few months. Pain was entirely absent. On operation the growth was found to be pedunculated, exactly like a head of cauliflower. There were no other growths in any other part of the body.

**Philadelphia Pediatric Society Prize.**—The PRESIDENT then announced the award of the Philadelphia Pediatric Society Prize of one hundred dollars to Dr. John Albert Kolmer for his essay entitled "Studies in Diphtheria."

**Leucocytic Inclusion Bodies in Scarlet Fever.**—Dr. KOLMER read an interesting paper showing that the leucocytic inclusion bodies were found in many other conditions besides scarlet fever. His investigations embrace a large number of cases of scarlet fever, diphtheria and other conditions.

**Retroperitoneal Lympho-sarcoma.**—Dr. HILL reported a case in an Italian boy, aged 6 years, following a kick in the abdomen two months before. Exploratory operation showed an inoperable retroperitoneal sarcoma, and Coley's fluid was used, beginning with one sixteenth of a drop and increasing to two-drop doses. Marked leucocytosis was noted before and



after the injections, with fairly normal differential count. The tumour gradually increased in size and death occurred in two months.

Dr. F. B. JACOBS said that this was the first case in which he had used Coley's fluid. The only true reaction noted was after the injection of two drops. At autopsy much bloody fluid was found in the abdominal cavity. Dr. Jacobs wondered whether this accumulation of fluid could have been due to the disintegration of the tumour produced by Coley's fluid, the absorption of which possibly killed the boy. He quoted extensively from an article by Dr. J. Dutton Steele, who reported sixty-one cases of retroperitoneal lympho-sarcoma; they were quite common under ten years of age and more frequent in males than in females, and on the right side rather than on the left. In most cases death occurred within eight months. This boy passed very little urine—five to seven ounces a day.

Dr. J. NORMAN HENRY referred to two cases which he had treated last winter without success in the Pennsylvania Hospital. One was a case of mediastinal sarcoma, inoperable, producing wide-spread pressure symptoms. Injection of Coley's fluid directly into the tumour produced marked reaction. The mass became softer at the site of the injection and the area of dulness seemed to be diminishing, but treatment was abandoned at the patient's request because of the great prostration after the injections. The second case was acute lymphatic leukæmia with a large lympho-sarcomatous mass in the mediastinum, found at autopsy. Again Coley's fluid did no good.

Dr. W. L. LEE reported a case of osteo-sarcoma of the lower jaw in the service of Dr. Gibbon in the Pennsylvania Hospital, which had recurred after thorough removal and then entirely disappeared when Coley's fluid was given. There was no further recurrence at the end of one year. A second case of sarcoma of the thigh, also in Dr. Gibbon's service, was reported, in which, after removal of the tumour, the wound became infected with streptococci. Here, again, there was no recurrence after one year.

**Hyperpyrexia.**—Dr. HARRY LOWENBURG reported a case in which the rectal temperature, as noted by two thermometers, was 108.3° F. This occurred in a marasmic infant of seven months, after an attack of diarrhoea, from which the baby had recovered. Weight was 16 lb. Three days before death coryza, cough and fever were noted. On the third day convulsions occurred, with unconsciousness and the temperature above noted. All treatment seemed of no avail. Autopsy was not permitted.

**Massage Ball for Constipation in Infants.**—Dr. LOWENBURG also exhibited a massage ball to be used in the treatment of constipation in infants and children. He has them made in two sizes, one weighing a little less than a pound, the other weighing two pounds. They are of iron, covered with leather, and resemble a baseball. The mother or nurse rolls the balls over the course of the colon, using no other pressure than their own weight. This is done for about five minutes night and morning. After this they are rolled in a circular fashion over the small intestine for one or two minutes. Dr. Lowenburg found excellent results from these balls after all other things had failed in cases of obstinate constipation. Older children enjoyed using these balls, playing with them.

Dr. LE BOUTILLIER asked whether this was any better than proper colonic massage, deep massage, properly carried out, over the colon. He has had very good results with colonic massage when it is properly given.

Dr. LOWENBURG answered that he found that the mothers would not give proper colonic massage and that he had devised this ball on that account.

## Abstracts from Current Literature.

### Medicine.

**Tuberculosis in infancy and childhood** (*'Johns Hopkins Hosp. Bull.,'* 1912, xxiii, p. 113).—**H. Koplik** states that one cannot say that infants are "predisposed" to tuberculosis any more than they are to measles or diphtheria, but one can say that they are in a position more than anyone else to be exposed to infection, by crawling about the floor and by putting things in their mouths. In very young infants the tuberculous infection will run an acute course, in others a protracted course (scrofulosis) and in older children the course of the disease will approach the forms seen in the adult. In the child infected within the sixth year cavity formation does not occur owing to the rapid course of the disease. In Koplik's opinion, infection through tuberculous milk—*i. e.* not milk containing human tubercle bacilli, but milk from tuberculous cows—is rare. As first pointed out by Weigert, a striking peculiarity of the pathological anatomy in infantile tuberculosis is the preponderating involvement of the lymph-nodes, especially those of the lungs. The meningitic form of the disease occurred in 75 per cent. of Koplik's cases, but it must not be forgotten that a large number of cases of meningitis are really terminal manifestations of a focus of tuberculosis long dormant; in many cases of bone tuberculosis meningitis was the terminal stage of the disease. He regards a pleurisy as tuberculous whose onset is not stormy, though it may be acute or subacute, in which the temperature is not very high—103° F.—in which the effusion is clear and absolutely free from organisms, in which there is a loss of flesh and strength, a history of tuberculosis in the vicinity of the patient and a positive reaction to tuberculin. Koplik agrees with Escherich that scrofulosis is a form of infantile tuberculosis, which develops in a lymphatic constitution a tendency from earliest infancy to a hyperplasia of adenoid tissue (*cf.* "What is Scrofula?" *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, vii, p. 39).

J. E. BULLOCK.

**The diagnostic and prognostic value of tuberculin in infants** (*'Thèses de Paris,'* 1911-12, No. 352).—**C. Daniel**.—In 436 children not over two years suffering from various diseases in whom the intra-dermo-reaction was used, 356 were negative and 80 positive. In infants under 1 year, 256 were negative, among whom the mortality was 47·8 per cent., and 37 were positive, with a mortality of 81·08 per cent. In infants from one to two years, 100 were negative, among whom the mortality was 25 per cent., and 41 were positive, with a mortality of 51·2 per cent. The author's conclusions are as follows: (1) The intra-dermo-reaction has a great diagnostic value in children under two years of age, as is proved by the concordance of its results with clinical and necropsy findings. This is particularly true of positive reactions. (2) The reaction retains its value until a very advanced stage of the disease, and much longer than in the adult. (3) Children suffering from tuberculous meningitis almost always react, at least at the onset, since out of 20 cases 17 were positive, and most of these were so three, four or five days before death. (4) Infants giving a positive reaction generally belong to a tuberculous stock, and have been contaminated by living with their sick relatives. (5) The proportion of positive reactions increases from birth up to two years. (6) A negative reaction in a defi-

nately tuberculous infant indicates a fatal issue within a brief period. (7) A positive reaction is of very grave prognosis in infants aged from one to two years, and is almost invariably fatal in children under one year. The thesis contains the histories of 94 cases observed in Hutinel's service at the Hôpital des Enfants Malades in children aged from three weeks to two years.

J. D. ROLLESTON.

**Examination of children of tuberculous parents** ('*New York Med. Journ.*,' 1912, I, p. 1323).—**Charlotte Blum**, examining 196 children, one or both of whose parents were suffering from tuberculosis, found that 40 (20·4 per cent.) were infected.

REGINALD MILLER.

**The physical signs of pulmonary tuberculosis caused by nasal stenosis** ('*Med. Record*,' 1912, II, p. 202).—**Mary Lapham** points out that a bronchitis of the apex may be due simply to nasal stenosis and that symptoms of pulmonary tuberculosis may follow the same cause. She describes two cases bearing out her contention in which rectification of the nasal obstruction resulted in the disappearance of the lung condition. She believes that the air-passages and alveoli in the apex are more difficult to fill than those of the rest of the lung, because there are no muscles of inspiration and no chest-wall to expand in that region.

MACLEOD YEARSLEY.

**Complications of tracheo-bronchial adenopathy** ('*Arch. de Méd. des enf.*,' 1912, xv, p. 193).—**F. Maillet** divides these into a serious group, and into a group in which the effects are transitory; the latter concern pressure symptoms on the neighbouring nerves and vessels, and are usually due to simple gland enlargement. The serious symptoms follow tuberculous gland enlargement, and are associated with an extension of disease to neighbouring organs.

J. E. BULLOCK.

**Slowing of the respiration in tracheo-bronchial adenopathy** ('*Rev. d'hyg. et de méd. inf.*,' 1911, xv, p. 419).—**C. Aubertin** describes the case of a child, aged 13 years, in whom the following symptoms presented themselves: (1) Respirations six to eight per minute, regular, permanent and painless; (2) precordial pains in the left nipple; (3) hiccough, especially after eating; (4) a chain of enlarged glands on the left side, shown by radioscopy.

F. R. B. ATKINSON.

**Sudden death from tuberculous tracheo-bronchial adenopathy** ('*Osp. d. Bamb. d. Milan.*,' 1912, I, p. 32).—**I. Cacciani** records a case in a boy, aged 3 years, admitted to hospital for bronchitis. Ten days after admission the child was suddenly seized with violent dyspnoea, the colour of the face and hands were blue and the pulse was imperceptible. In spite of injections of camphorated oil and oxygen inhalations death soon occurred. In addition to enlargement of the thymus the necropsy showed diffuse tuberculosis of the glands, lungs and spleen.

J. D. ROLLESTON.

**Perforation of trachea by tuberculous lymphatic gland** ('*Jahrb. f. Kinderh.*,' 1911, LXXIII, p. 734).—**H. Koch**.—A previously healthy boy, aged 6 years, fell ill with headache, cough and hoarseness. The next day severe dyspnoea necessitated intubation. In 48 hours the tube was removed; 24 hours later there was a return of severe dyspnoea, which intubation, followed by tracheotomy, failed to relieve. At the necropsy the large bronchi were



found blocked by carious masses due to perforation of the trachea by a carious lymphatic gland. Pollak mentioned a similar case in which recovery followed tracheotomy, the tuberculous gland being coughed out through the tracheotomy wound.

J. D. ROLLESTON.

**Erythema nodosum and tuberculous meningitis** (*Gaz. des Hôp.*, 1912, LXXXV, p. 125).—A. Sézary draws attention to the frequency of tuberculous meningitis in children who have recently had erythema nodosum. His own case was a girl, aged 8 years, who had an attack of erythema nodosum in February, when she presented signs of enlargement of the tracheo-brachial glands. After an interval of four months' good health, tuberculous meningitis developed and death took place in August. Sézary quotes similar cases from literature of tuberculous meningitis following erythema nodosum and also of the coincidence of the two phenomena.

J. D. ROLLESTON.

**Is phlyctenulosis a manifestation of tuberculosis?** (*Long Island Med. Journ.*, 1912, VI, p. 208).—L. C. Ager believes (1) that tuberculous infection of the eye, particularly in the young, is much more common than has been supposed; (2) if phlyctenulosis is not the direct product of a tuberculous infection, there is reason for supposing that there is a causative relation between the two; (3) all children with phlyctenulosis should be thoroughly examined for tuberculosis and treated accordingly.

F. R. B. ATKINSON.

**Tuberculosis of the mesenteric glands in children; its nature and treatment** (*Lancet*, 1912, I, p. 426).—Edred M. Corner asserts that in practically every child patient submitted to an abdominal operation there will be found evidence of tuberculous mesenteric glands. He maintains that owing to the difference in muscular structure of the small and large intestines there occurs in the ileo-cæcal region a stagnation of the intestinal contents. This pause takes place in a warm, slightly alkaline medium, which is an excellent place for the multiplication of various micro-organisms. To protect the body against this menace a large amount of lymphoid tissue has been formed in the ileo cæcal region. Hence the function of the appendix. There must be a continuous "ileo-cæcal" strife between organisms and the lymphoid tissue. And so long as the lymphoid tissue prevails the host is in good health. If the micro-organisms get the best of the ileo-cæcal strife the host is in bad health, and may suffer from appendicitis, colitis, or infected glands in the mesentery. From the above it is argued that the great entrance of tuberculosis from the intestine to the body is by the lymphatics, in the ileo-cæcal region. In the treatment of these cases the author advises removal of the appendix followed by a course of treatment for tuberculosis on generally recognised lines.

J. ALLAN.

**Clinical significance of the deglutition click or fremitus** (*Amer. Journ. Dis. Child.*, 1912, IV, p. 7).—L. Ott has found of value in diagnosis what he terms the deglutition click. The child's chest is auscultated while feeding and the sound made by the swallowing movements compared over the various parts of the lungs. It is found to be perceptibly increased over consolidated areas. He describes it as a sign of value in very young children whose vocal resonance cannot be tested in the ordinary way.

REGINALD MILLER.

**On the presence and distribution of carbon dust in the lungs of children** (*Riv. di clin. Pediat.*, 1912, x, p. 430).—**L. Pollini** finds that in children under the age of 45 days there is a complete absence of carbon in the lungs, while merely traces are found from 1½ to 8 months. From 8 months onward there is found an appreciable quantity, which generally increases with age, and is distributed equally over both lungs, but is more abundant in the upper lobes. The quantity present is the same in children reared in a town like Milan or in the country.      VINCENT DICKINSON.

**The diagnosis and prognosis of infantile pneumonia** (*Progrès méd.*, 1912, xl, p. 145).—**G. Mouriquand** draws attention to the localisation of the lesion; the later it takes place the more favourable is the prognosis. Out of 240 cases under the observation of the author and Prof. Weill, there was no localisation found in 40 cases; in 82 it was in the left base, in 64 at the right apex, in 39 in the right base, and in 15 at the left apex. Of the 82 cases at the left base, 29·5 per cent. had complications, of the 64 cases of the right apex only 7·6 per cent. had complications, of 39 cases of the right base 28·2 per cent., and of 25 cases at the left apex 60 per cent. had complications; fortunately this latter position is rarely attacked. Radioscopy showed that the lesion at the apex took a triangular shape with its base in the axilla; this triangle appeared at the onset, became diffuse during the height of the disease, and reappeared after the crisis. Axillary auscultation demonstrates the presence of this triangle which is not present in broncho-pneumonia.      VINCENT DICKINSON.

**Prolonged pseudo-tuberculous broncho-pneumonia in children** (*Thèses de Paris*, 1911–12, No. 435).—**Mlle. S. Goldenfann** discusses the forms of broncho-pneumonia of subacute and protracted course, of which the physical signs and symptoms, especially emaciation, prolonged fever and cachexia, so closely resemble tuberculous broncho-pneumonia that this disease is usually diagnosed. The aetiology is the same as that of ordinary broncho-pneumonia. The disease is most frequent after acute infections, especially measles and whooping-cough. It may last several months, and be complicated by empyema and bronchial dilatation. The diagnosis is made by the absence of tuberculous antecedents, a negative cuti-reaction, and the absence of tubercle bacilli in the sputum, which may be obtained by various methods, especially gastric lavage. The prognosis, though grave, is less so than that of tuberculosis. Recovery may take place when a fresh-air cure is adopted early. Necropsies show an absence of naked-eye or microscopical lesions of tuberculosis, a localisation of the lesions in a pseudo-lobar focus, a cornification of the lung parenchyma and bronchial dilatation. The thesis contains the histories of seven cases, five of which are original, in children aged from fifteen months to eight years.      J. D. ROLLESTON.

**Non-diphtheritic membranous angina in broncho-pneumonia** (*Centralbl. f. Laryn.*, 1912, xxxviii, p. 419).—**Romeo**.—A child aged 8 years on the fourth day of broncho-pneumonia developed yellowish-white deposits on the tonsils, accompanied by hoarseness and dyspnoeal attacks. Agar and gelatin cultures showed the presence of two kinds of colonies, one the ordinary saprophytes of the mouth and the other pneumococci. No diphtheria bacilli were present.      J. D. ROLLESTON.

**Acute dilatation of the stomach complicating pneumonia in a child** (*Am. Journ. Obst.*, 1912, lxvi, p. 132).—**L. Louria** describes a case of a boy, aged 2 years, in which these two conditions were associated. The

child recovered. The symptoms of the condition are: (1) Sudden projectile vomiting, which may be absent; (2) great abdominal pain; (3) distension, rapid and mainly epigastric, disappearing with gastric lavage; (4) collapse; (5) usually constipation, but occasionally diarrhoea; (6) peristalsis visible over the epigastric area, and often succussion splash. The condition may be confounded with intestinal obstruction and with general peritonitis. The treatment consists in passing a stomach-tube and employing gastric lavage with normal saline. Nothing should be given by the mouth for several days, nutrient enemata being employed instead. Strychnine and eserine are useful drugs hypodermically.

F. R. B. ATKINSON.

**Increased subclavicular expansion in pleural effusion in children** (*Lyon Méd.*, 1912, cxviii, p. 945).—MM. Weill and Gardère, comparing their clinical observations with radioscopy, state that in pneumonia there is invariably a marked diminution of subclavicular inspiratory expansion. They have at times noticed the absence of this symptom during the course of affections which clinically resemble pneumonia. For example a child admitted with high temperature, dyspnoea without cyanosis or recession had slight dullness, tubular breathing, a few *râles* at one base; the subclavicular expansion, however, was not diminished, but rather increased. Radioscopy shows that such cases were really pleural effusions. Recently a child was admitted with similar symptoms and labial herpes, the right base was dull, there was tubular breathing and *râles*, the expansion of the right subclavicular region was increased. Radioscopy showed the right lung clear at its upper part; the lower part, on the contrary, was the seat of a marked shadow reaching as far as the diaphragm and stretching laterally as far as the costal border. The characteristic triangle of pneumonia was absent. Exploratory puncture drew off fibrino-purulent fluid. The child presented all the general signs of pneumococcal infection, but instead of the lung the pleura was affected. These facts show the necessity of carefully examining the subclavicular expansion in children with signs of an acute pulmonary affection. The clinical diagnosis between pleurisy and pneumonia is sometimes difficult; percussion is much more delicate in the child, and an abundant effusion is necessary to produce decided dullness. Moreover, breath-sounds may be heard in a child in spite of the presence of fluid, and *râles* are almost always heard in the course of a pleurisy of moderate amount. The presence of increased subclavicular inspiratory expansion constitutes a valuable sign in favour of the existence of a pleural effusion. Diminution of this expansion is invariable during the course of pneumonia in children, and whenever it is absent it should throw doubt on the diagnosis of pneumonia and suggest the presence of pleural effusion.

VINCENT DICKINSON.

**Empyema in infants** (*Pediatrics*, 1912, xxiv, p. 192).—F. Huber describes a case of empyema in an infant 8 weeks old, and analyses 86 other cases. He found 86 cases among a total of 967 children ten years of age and under. Nearly 40 per cent. were fifteen months and under; 24 boys were affected, and 9 girls under fifteen months of age. The mortality was high: 17 died. The author lays stress on the board-like feel, the sense of resistance, flatness, displaced heart, and possibly diminished or absent breathing and voice as valuable diagnostics, especially displacement of the heart. In the infant he considers incision with drainage usually suffices. Narcosis is not necessary.

F. R. B. ATKINSON.



**Empyema of infancy** ('*Amer. Journ. Obst.*,' 1912, LXXV, p. 898).—**S. A. Blauner** describes three cases of this disease in children, aged 5 months, 10 months, and 9 months respectively, and draws attention to the importance of flatness on percussion as a diagnostic; in fact he believes that this one sign is quite sufficient, regardless of the absence of other symptoms, to warrant exploratory puncture.

F. R. B. ATKINSON.

### Surgery.

**Gliomata and cerebral injuries** ('*Gaz. des Hôp.*,' 1911, LXXXIV, p. 1459).—**L. Babonneix** describes numerous cases from the literature in which gliomata followed injury, and does not believe that the result is a fortuitous occurrence. He considers that Virchow's theory best explains their presence, viz. that the traumatism has caused hyperæmia and capillary hæmorrhages which irritate the neighbouring neuroglia and cause proliferation of the same.

F. R. B. ATKINSON.

**A case of chylangioma** ('*Med. Record*,' 1911, II, p. 676).—**C. P. Farnsworth** and **W. T. Lindsay** describe the case of a boy, aged 7 years, operated upon for ascites, pain in the abdomen and vomiting, and other symptoms of intestinal obstruction. On performing laparotomy, four cysts were found at the junction of the jejunum and ileum causing complete obstruction. The fluid contained a large amount of fat-cells, a few leucocytes and red corpuscles. The child died forty-five hours after operation.

F. R. B. ATKINSON.

**Sarcoma causing chronic intussusception** ('*Clin. Journ.*,' 1912, XL, p. 193).—**D'Arcy Power** describes the case of a boy, aged  $5\frac{1}{2}$  years, in whom he removed an irreducible intussusception by excision. A month afterwards a lump was found inside the right nipple, which on removal was found to be a round-celled sarcoma. Re-examination of the excised portion of the bowel revealed the same condition. The author could only find one similar case in the literature (Meyer, W., '*Annals of Surgery*,' 1898, XXVIII, p. 260). There had been no return in the author's case at the date of publication nine months after operation.

F. R. B. ATKINSON.

**Sarcoma of the pelvis in children** ('*Arch. f. Kinderheilk.*,' 1912, LVIII, p. 160).—**H. Alexander** reports on 18 cases of this disease from the literature. The cases are of two kinds—myelogenous and periosteal; pulsating sarcomata had never been observed. The ages of the 18 cases ranged from birth to sixteen years; 6 were males, 12 females. *Causes*: Trauma was noticed in three cases. *Symptoms*: Pain is usually the first symptom; the tumour is usually too deep to be felt at first. Intestinal and bladder troubles are generally of early date, and œdema of the lower extremities appears later. Fever appears later and then cachexia. Metastases are most frequent in the lungs. Death on the average occurs in sixteen months. The only treatment is removal, which has proved successful in Bartscher's case ('*Monatsschr. f. Geburtskunde*,' 1861). There is a complete bibliography.

F. R. B. ATKINSON.

**Sarcoma of the ovary in a girl, aged  $14\frac{1}{2}$  years** ('*Prag. med. Woch.*,' 1912, XXXVII, p. 79).—**Gross** had a girl under his care with three months' amenorrhœa, enlargement of the abdomen and a rapidly growing tumour.

The diagnosis of left ovarian tumour was made and operation carried out. Four months later the patient was in good health: menstruation had been regular. According to Zangemeister, there are two ages of predilection for these tumours—at puberty, and at the climacteric. M. D. EDER.

**Sarcoma of the upper jaw in a baby, aged 21 months** (*Journ. de Méd. de Bord.*, 1911, xli, p. 824).—H. L. ROCHER relates the case of a healthy female child, with a good family history, who, when twenty-one months old, was noticed to have developed a swelling in the left temporal region and in the posterior part of the palate; this increased and the child wasted; later exophthalmos of the left eye appeared. The tumour was almost fluctuating and about the size of a hen's egg, covered with dilated veins. The nasal fossa was occupied by the swelling, and the hard palate was destroyed on the left side. In spite of treatment by radium the tumour continued to develop rapidly, and the child died quite suddenly from syncope while at play. J. PORTER PARKINSON.

**Acute osteomyelitis of the superior maxilla in sucklings** (*Arch. de méd. des enf.*, 1912, xv, p. 39).—R. FRANÇAIS describes three cases of this disease in infants of five months, twenty days, and a few days of age respectively. The first case was bilateral and recovered, the second and third unilateral; the former recovered and the latter died. A consideration of the twenty-four cases published in the literature shows that the disease is one of early life, and may be caused by trauma, erosions and ulcerations of the nasal and buccal mucous membrane, syphilis, tuberculosis or other infections. The presence of germs in the mouth and gums seems to be the chief reason for the localisation of the disease at this age in the superior maxilla. The symptoms may appear suddenly with fever and convulsions, or the disease may come on insidiously with swelling of the alveolar border between the premolar and the lateral incisor teeth, and the formation of an abscess is not long delayed. In other cases the swelling begins in the canine fossa and gives rise to swelling and chemosis of the orbit. The palatine arch and mucous membrane are not affected. The prognosis is bad; 30 per cent. of cases died, and death is usually due to septicæmia. The treatment consists in opening the abscess and removing the necrosed parts. F. R. B. ATKINSON.

**Mercurial necrosis of the maxilla in a girl, aged 5 years** (*Journ. de Méd. de Bordeaux*, 1912, xxiv, p. 87).—H. L. ROCHER reports that after the use of an ointment containing mercury on a large burn for three months a mercurial stomatitis began, accompanied by a pseudo-membrane and swelling of the right cheek, with some trismus, salivation and intense foetor of the breath. Two large sequestra came away with some of the milk teeth. The author considers that very toxic substances were formed by the combination of the mercury with iodoform and iodol. A fibrous scar was left in the right cheek, which had to be removed before mastication could be properly performed. J. PORTER PARKINSON.

**Necrosis of superior maxilla in measles** (*Gazz. d. osp.*, 1912, xxxiii, p. 521).—F. BINDI.—A girl, aged 6 years, had an attack of measles followed by broncho-pneumonia. During resolution she developed necrosis of half the right upper jaw, preceded by gangrene of the gingival mucous membrane, the alveoli of the second incisor, canine, two premolars, and first molar being

affected. The sequestrum was removed and recovery took place. Bindi regards the onset of the permanent dentition as the cause of the localisation of the gangrene. Gangrenous processes after measles are not uncommon (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, v, p. 74), but necrosis of bone is very rare. Bindi could not find a record of a similar case in literature.

J. D. ROLLESTON.

**Acute epiphysitis in the new-born** (*'Austr. Med. Gaz.'* 1911, xxx, p. 450).—J. A. Watt and W. S. Sweet narrate the case of a baby, aged 11 days, with the above condition of the left wrist. Pus was evacuated and improvement set in. The mode of infection was probably through the eyes, as the same form of diplococcus was found in the secretion from the eyes and the pus in the radius. A loose lateral incisor tooth was removed when the child was nineteen days old.

F. R. B. ATKINSON.

**Osteogenesis imperfecta** (*'Nederland. Tijds. v. Geneesk.'* 1912, II, p. 310).—R. A. Tange and M. H. J. Groenendijk allude to the case recently reported by Heukelom and Kamberg (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 85), and report a case in a male infant, the second child of healthy parents. At birth its limbs were abnormally short in relation to the trunk as in achondroplasia, and crepitus could be felt in the left radius and several ribs. When one year old it measured 1 ft. 10 in. with the legs fully extended, and weighed 13 lb., the same as it did at six months. Movement of the limbs was still very slight. The skull was still soft, and the fontanelle widely open. Sweating was marked. X rays showed fractures in ribs, left radius, femora and tibiæ.

J. D. ROLLESTON.

**Case of osteogenesis imperfecta** (*'Austral. Med. Gaz.'* 1912, xxxi, p. 565).—R. B. Wade describes this rare condition in a child aged 3 months, in whom twelve bones in all were fractured. In about 15 per cent. of the recorded cases heredity is a factor. The greatest number of fractures in one case is reported by Chaussier—113 in a new-born child. Repair of the fractures is usually good.

F. R. B. ATKINSON.

**Osteogenesis imperfecta** (*'Jahrb. f. Kinderheilk.'* 1912, LXXVI, p. 40).—R. Preiswerk describes the case of a girl suffering from this condition, and also the history of other cases culled from the literature.

F. R. B. ATKINSON.

**Osteopsathyrosis** (*'Jahrb. f. Kinderheilk.'* 1912, LXXVII, p. 30).—L. Scholz describes a case of a boy, aged 1½ years, in whom fractures of the thigh, one arm and clavicle had occurred. He found treatment by strontium, as recommended by Lehnerdt, valueless.

F. R. B. ATKINSON.

**Fragilitas ossium** (*'Pediatrics,'* 1912, xxiv, p. 85).—W. P. Coues records a case in a boy, aged 9 years, who since the age of two years had had the following fractures: (1) Of tibia due to fall from tree; (2) of femur due to slipping on floor; (3) of both bones of leg caused by fall from wall; (4) of both bones of right arm caused by fall on stairs; (5) of both bones of left arm through stumbling over wire; (6) of phalanx near joint from another boy twisting his fingers; (7) of metacarpal due to blow with broom; (8) separation of lower epiphysis of fibula due to fall. The sclerotics were of



a slaty blue colour. Coves had heard of a family on Cape Cod who had very brittle bones and the same slaty-blue colour of sclerotics.

J. D. ROLLESTON.

**Tuberculous disease of the bones and joints: present position of treatment in London** (*'Lancet,'* 1912, I, p. 424).—**R. C. Elmslie** points to the great prevalence of these conditions both in England and Germany, and gives statistical proof that in this country tuberculous disease of the bones and joints is the most important cause of crippling in childhood. The principles of treatment are (1) early diagnosis; (2) exact diagnosis; including routine radiography, so that the cases of focal disease in the bone capable of radical treatment may not be missed; (3) correction of any deformity that has already arisen; (4) rest and fixation in that position which will be the best if ankylosis supervenes; (5) the treatment of abscesses by means as conservative as possible, postponing operative treatment and using aspiration in preference to incision; (6) after-treatment by fixation or support as long as is necessary to prevent subsequent contracture. The author gives a brief general survey of the means and channels by which such treatment is being at present carried out, and in conclusion he briefly states the requirements necessary for the better control of such cases. These are as follows: (1) increase in the accommodation for in-patient treatment of children suffering from tuberculous disease of the bones and joints, preferably in special hospitals situated in the country close to London; (2) the levelling-up of these hospitals by having them staffed and supervised by men who will make a special study of the treatment of tuberculous joints, not only from the point of view of saving the child's life, but also from the point of view of preventing deformity; (3) the provision of extensive open-air wards; (4) provision for treatment for an indefinite period, and for children of all ages, including infants; (5) arrangement for the education of the children whilst in hospital; (6) proper arrangements for the after-supervision in an out-patient department and in the home. J. ALLAN.

**Dislocation of the hip caused by infectious arthritis** (*'Therap. Gaz.,'* 1912, xxxvi, p. 249).—**J. H. Shaw**.—A girl, aged 8 years, after diphtheria followed by measles was found to be suffering from an inflamed hip. X-ray examination revealed disorganisation of the roof of the acetabulum and head of the femur. The treatment, consisting of daily bathing with massage and auto-resisting exercises, considerably improved the condition. F. R. B. ATKINSON.

**Acute arthritis** (*'Clin. Journ.,'* 1912, xxxix, p. 305).—**W. Hale White**, in the course of an interesting lecture on the acute arthritis of childhood, gives an account of an infection of a hip-joint by *B. pyocyaneus* in a child, aged 5 years. The illness was characterised by a very sudden onset and the rapid development of convulsions and coma. The arthritic symptoms were ill-marked at first. Death took place from pyæmic pulmonary abscesses. Post mortem, in addition to the affection of the joint which had been opened, there was acute osteomyelitis of the shaft of the femur. No aperture could be found to explain the infection of the joint from the bone.

REGINALD MILLER.

**Pseudo-tuberculous arthritis due to rheumatism** (*'La med. de los niños,'* 1912, xiii, p. 3).—**Guasch** describes the case of a girl, aged 10

years, who had presented the classical signs of hip-joint disease, lumbar lordosis, apparent lengthening of the left leg, some pain over the head of the femur on pressure and on movement, and limitation of movement. The symptoms were, however, too severe for the length of time the disease had lasted; the patient was treated for rheumatism. Five physicians had previously diagnosed tuberculous disease and had advised absolute rest; fifteen doctors subsequently had agreed in this diagnosis. Guasch got the opinions of three more, whose diagnoses were coxalgia, Pott's disease, traumatic arthritis. The symptoms disappeared under salicylates and there was later on pain in the left tibio-tarsal joint, which got better under the same treatment. A year later the patient was found to be perfectly well. Mono-articular rheumatism is so frequent in children that it should be always carefully considered and excluded.

M. D. EDER.

**Acute suppurative arthritis and bursitis in children** ('*La Pediatria*,' 1912, xx, p. 210).—V. Brun contributes a paper on this subject to which little attention has hitherto been paid. (1) *Arthritis*.—The local causes are skin lesions, adhesions, eczema, intertrigo, etc.; the general causes, acute infectious conditions. Bacteriology: *Staphylococcus pyogenes aureus* occurred 12 times, streptococcus 13, diplococcus 15, gonococcus once. Each of these forms has characteristic clinical features, e.g. staphylococcal arthritis begins gradually with slight heat and swelling of the joint, is rarely complicated by cartilaginous changes, and gets well rapidly with surgical treatment. Streptococcal arthritis, on the other hand, manifests a peculiar malignity, beginning suddenly with fever, swelling, pain, and general constitutional disturbance. The diplococcal form is the most benign, and may be primary or follow an infection of the lungs or ear. Children have a special receptivity with regard to the diplococcus, and this is demonstrated in the majority of cases of purulent otitis media in which this organism is found. This receptivity is also shown, besides synovial localisation, in affections of the large serous cavities and mucous surfaces. The affection was secondary in seven out of fifteen of the author's cases and developed during convalescence. The onset is gradual and acute manifestations are absent. The pus is abundant, fluid, and not infrequently sterile, the diplococcus having already lost its virulence. Bleorrhagic arthritis has two modes of entry; in the newly born it follows, as a rule, a purulent gonococcal conjunctivitis of maternal origin; in later childhood it is secondary to a genital affection, for the most part vulvo-vaginitis, since females are affected in about 95 per cent. of the cases. The affection is almost always monarticular. Usually in the diplococcal and gonococcal forms the synovial membrane alone is affected, rarely the articular cartilage and hardly ever the osseous epiphysis, and even then sequestra do not form. In streptococcal forms, on the other hand, in more than half the cases the cartilages and bones are affected by lesions which are of no great depth but of large area, so that the articular head is almost entirely denuded of cartilage and rough with small sequestra. In staphylococcal forms implication of the head of the bones is also frequent, but to a less extent; the severity of the attack being less, cure is rapid and complete. The author's statistics show the seat of the disease to have been the shoulder in 7, elbow in 2, wrist in 2, hip in 13, knee in 15, foot in 3, sterno-clavicular joint in 1. Diplococcal infections attack the shoulder and knee equally. Prognosis depends on several factors; the pathogenic agent, the presence of osseous lesions, the number of joints affected, the general condition of the patient and the promptness of surgical intervention. The gravest form is

the streptococcal, which is prone to attack the bones; multiplicity of lesions does not seriously affect the prognosis, except when accompanied by general depression. Early surgical intervention is of capital importance. Treatment consists in arthrotomy. Cure generally results without ankylosis. (2) *Acute purulent bursitis*.—Occurs specially in later childhood. In 10 cases collected by the author, 2 were in infants and the rest in children from 3 to 11 years. The seat was single in 9 cases, multiple only in 1, which was an infant of 3 months with inflammation of the right trochanteric, the right subcrural of the knee and the left temporo-maxillary bursæ in the rest; the shoulder was affected in 2 cases, the hip in 4, and the knee in 3. Examination of the pus showed *Staphylococcus aureus* in 7 cases, diplococcus in 2, gonococcus in 1. Bursitis of the knee and hip often simulate cold tuberculous abscess; bursitis of the hip especially may simulate tuberculous coxitis, from which it is distinguished by the absence of osseous changes, and especially of pain produced by anterior pressure on the head of the femur or blows on the head.

VINCENT DICKINSON.

### Treatment.

**Involution of the thymus by the X ray** ('*Arch. of Pediat.*,' 1911, xxviii, p. 810).—A. Friedlander experimented on rabbits, with the following results: (1) It is possible to induce involution of the thymus by the X rays, and also in cases of status lymphaticus to reduce the size of the spleen and of the lymph-nodes (human subject reported in 1907). (2) By variation in the number and frequency of the X-ray exposures it is possible to bring about involution with varying degrees of rapidity; hence when the symptoms of thymic asthma are urgent, the exposures can be given on successive days. (3) It is possible to induce any degree of fibrosis of the thymus from the very slightest to absolutely complete sclerosis. (4) The dosage of X ray can be regulated according to the necessities of the case. (5) There is no danger to individuals from the use of the rays.

F. R. B. ATKINSON.

**Hypertrophied thymus treated by radio-therapy** ('*La Clin. inf.*,' 1912, x, p. 269).—MM. L. Ribadeau-Dumas and A. Weil report the case of a girl, aged 2 months, brought to the *crèche* with bronchitis and signs of enlarged thymus, viz. stridor, paroxysms of suffocation with cyanosis, deformity of thorax and percussion signs. To differentiate the condition from mediastinal adenopathy a series of radiosopic examinations were undertaken in various positions. The screen showed above the heart, and merging into it, a shadow extending towards the left of the sterno-vertebral shadow. This shadow, which was wide, homogeneous, with defined borders, had all the characters of the thymic shadow of D'Oelsnitz and was easily distinguished from shadows caused by enlarged glands. The puny condition of the infant led the authors to try radio-therapy as an alternative to operation. The effects were remarkable. After the second sitting the attacks of dyspnoea no longer occurred, the stridor was less marked and disappeared after the third irradiation. Radiography showed considerable diminution of the thymic shadow. Feeble doses were used,  $1\frac{1}{2}$  H, 5 H. Unfortunately the infant contracted measles, to which she succumbed. At the autopsy sclerotic atrophy of the thymus was found, which, by comparison with the radiosopic images observed during life, seemed attributable to the action of the rays.

VINCENT DICKINSON.



**Röntgentherapy in infantile splenomegaly** (*'La Pediatria,'* 1912, xx, p. 30).—**G. A. Petrone** and **M. Lo Re** treated a number of cases by X rays, which failed to give good results in one case of Leishmaniosis and in one case of pseudo-leukæmic splenic anæmia. During the treatment the size of the spleen and number of leucocytes diminished, but at the same time the general condition became worse and the anæmia more marked. Röntgentherapy, associated with the administration of quinine, gave very good results in a case of enormous malarial splenomegaly, in which the use of quinine and arsenic alone yielded very poor results. Under X-ray treatment carried on for three months, the spleen was reduced almost to its normal size, while the general health improved. At the same time, however, the leucopenia, the number of red blood-corpuscles and amount of hæmoglobin, after slight variations at the commencement of treatment, remained almost stationary, not only during the whole period of irradiation, but some months later. Eight months, however, after the termination of the Röntgentherapy the condition of blood returned almost to normal. The result observed in this case is all the more remarkable in that one had to do with a chronic splenomegaly, in which permanent irreducible lesions had presumably taken place. In four cases of pseudo-leukæmic splenic anæmia (three with leucocytosis and one with an almost normal quantity of white blood-corpuscles), in which the enlargement of the spleen was a conspicuous feature, while the anæmic condition was little marked and the general condition fairly good, except in one case, the X rays was to a certain extent effectual, causing a rapid reduction in the size of the spleen, and improvement in the general condition. In these cases also a diminution of leucocytes was noticed. The red cells and hæmoglobin remained almost stationary in three cases during treatment and for some months after, and only after a considerable time (seven to eight months) had the blood condition returned to normal, while in the other case the number of red cells and to a less degree the amount of hæmoglobin underwent a gradual increase even during treatment. The authors conclude that this treatment is useful in pseudo-leukæmic splenomegaly when it is not very severe, and when the general condition is fairly good, since it reduces the size of the spleen, improves the general health and conduces to recovery. The result in the case of malarial cachexia probably saved the patient from splenectomy. The results in the case of Leishmaniosis were not definite. The treatment should be continued with the hypodermic administration of iron, arsenic, and lecithin.

VINCENT DICKINSON.

**Radiotherapy in tuberculous adenopathy** (*'La Clin. infant.,'* 1912, x, p. 299).—**M. Bruneau de Laborie**, in a communication to the Soc. méd. des Hôp., distinguishes two classes of cases, according as the gland is simply enlarged and rich in lymphoid tissue or has undergone caseous changes and is suppurating or fistulous. In the first condition the gland may disappear after a single application; sometimes, however, the first irradiation causes some increase in volume which diminishes after a second dose. In these simple cases six or seven applications generally bring about a permanent result. When caseation has commenced the result of irradiation is often to cause rapid suppuration. In this case it is better to evacuate the pus while continuing the treatment. Under these conditions the duration of the treatment is increased, but there is a gain in rapidity of cure and in æsthetic result. In tracheo-bronchial adenopathy the paroxysmal cough often disappears after the fourth sitting. Application should be made every fifteen

days, except for tracheo-bronchial glands, where it may be made every eight days alternately to the back and front of the thorax. When the gland is fistulous the author makes two or three applications without a filter; in other cases he uses a layer of aluminium .5 mm. thick. The dose measured by Sabouraud's pastilles must be at least 4 H units, but less than 5. If after several applications the skin becomes red, treatment is suspended for a month. With these precautions dermatitis does not occur. A localiser of glass or lead protects the neighbouring skin, but it is necessary to have an opening larger than the apparent size of the gland so as to act on the whole of it. A large number of children were among the cases treated.

VINCENT DICKINSON.

**Tuberculin in children** (*Arch. de méd. des enfants*, 1910, XIII, p. 744).

—**Gouraud** finds that the action of tuberculin in children is different from what it is in adults, though the benefit is similar; it requires more care in application. It is more useful in tuberculous glands than in phthisis; in the latter it is often badly borne. The results are very good in skin, joint and bone affections, also in tuberculous peritonitis and in genito-urinary tuberculosis. It may be used in infants so young as eight or ten months. It tends to promote active immunisation, though the power of immunisation is less the younger the child. As young children have been shown not to develop antibodies, tuberculin is chiefly useful when tuberculosis is limited and not virulent. Children bear tuberculin better than adults, so that the treatment may be considered as without danger. The improvement in the general condition, as shown by gain in weight and development, is very marked in infants. Surgery may be preferable in tuberculosis of glands, bones and joints, as the immunising power of tuberculin is weak and the effect is slow.

J. E. BULLOCK.

**Treatment of tuberculosis in children by Koch's old tuberculin**

(*Jahrb. f. Kinderheilk.*, 1912, LXXV, p. 556.)—**J. Cronquist** states that the main indications before commencing tuberculin treatment are, in the case of the lungs, that the changes have not reached cavitation, though one or two lobes may be affected, the body temperature must be normal, and there must be no kidney affection; to ensure this the urine of each child undergoing tuberculin treatment is examined daily. While acknowledging that most authorities think that after a reaction the last dose should be repeated until no reaction occurs, that is, until the child is immune to this dose, according to his experience it is much better to lower the dose a tenth of that which had caused the reaction, and to raise the following doses more carefully than before; thereby harm is avoided to the child and time saved. The object of treatment is to attain as high a dose as possible without reaction, and to repeat this optimum dose until the tuberculous process is healed. The absence either of a v. Pirquet reaction or of a local reaction is no guide to the optimum dose. For some years he has sought to base the dosage of tuberculin on the anti-tuberculin content of the blood; this has been shown to be directly proportional to the amount of tuberculin injected, and in his opinion is dependent upon the extent and nature of the lung changes; on these premises he justifies the assumption that by evidence of repeated anti-tuberculin content one can arrive at the optimum dose.

J. E. BULLOCK.

**Treatment of tuberculous glands of the neck in children** (*Practitioner*, 1912, LXXXVIII, p. 641).—**W. G. Sutcliffe** rightly draws attention

to the desirability of rest in the treatment of this condition until there is definite decrease in their size. He does not find that tuberculin assists in the rate of absorption of the affected glands. He considers  $\frac{1}{50000}$  mgrm., increased to  $\frac{1}{25000}$  mgrm. after two weeks and given every eight days, is the right dose. The preparation is not stated. He finds tuberculin is of some service after operation, but not until a month has elapsed. The treatment should be continued for three months. The author enters into the surgical treatment at some length.

F. R. B. ATKINSON.

**Adrenalin in the treatment of tuberculosis** (*'Paris méd.'* 1911-12, 1, p. 246).—**E. Sergent** recommends adrenalin in the defective calcification of tuberculous children, which accompanies dental caries and phosphaturia (*cf.* "Recalcification in Children," *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1911, VIII, p. 476). It is most useful in peritoneal and bone tuberculosis, especially Pott's disease.

J. E. BULLOCK.

**The management of asthma in children** (*'Amer. Journ. Med. Sci.'* 1912, I, p. 836).—**H. M. McClanahan** divides the treatment into two headings: (1) The care and treatment of the child during the intervals: A thorough investigation should be made of the whole body and the history of the child and family should be noted. The feet and legs should be kept warm and dry and the chest and neck protected to prevent cold. A low meat diet with a high vegetable proteid is the best diet. In certain cases a change of climate is necessary. If anæmia or rheumatism be present, these should receive appropriate treatment. Daily exercises in pulmonary gymnastic exercises are invaluable, especial stress being laid on the importance of complete expiration. If catarrhal bronchitis exists, the author finds sodium iodide the best remedy. (2) Treatment of the paroxysm: The room should be warm, and air currents avoided. If the bowels are distended with gas a warm enema is indicated, and an emetic if the paroxysm occur after a hearty meal. In some cases adrenalin hypodermically (3-5 m of  $\frac{1}{100}$  solution), in others morphine sulphate  $\frac{1}{30}$  gr. or 3 gr. of chloral hydrate, cut short the attack. The inhalation of nascent oxygen has also proved valuable. After the paroxysm a cough constantly remains, and heroin in a syrup of hypophosphites is the best remedy. The author, after a study of twenty cases, finds that the majority of infants and children suffering from asthma recover.

F. R. B. ATKINSON.

**Effect of cold, fresh air on blood-pressure in pneumonia of children** (*'Amer. Journ. Dis. Child.'* 1912, III, p. 294).—**J. Howland and B. Raymond Hoobler**, using a Faught sphygmomanometer, found that the effect of cold, fresh air in children with active pneumonia was always to cause a rise in blood-pressure, and that removal to a warm but well-ventilated ward was to cause a fall. The rise was not apparent till half an hour or more, sometimes not until an hour after being put out of doors, and it did not reach the maximum till two hours. The effect lasted thirty hours, and there was no tendency for the pressure to fall until the patient was moved from the cold fresh air, when the pressure fell in fifteen or twenty minutes and usually reached its minimum in an hour. In convalescence the results were less striking and might even be absent. The authors attributed the influence on the blood-pressure to the reflex stimulation of the vaso-motor centre by the action of cold air on the skin of the face and nasal mucous



membrane. No other part of the child was exposed, and no additional factor could play a part. The charts of fifteen cases are reproduced in children aged from eighteen months to ten years (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 470). J. D. ROLLESTON.

**Treatment of summer diarrhœa** (*Guy's Hosp. Gaz.*, 1912, XXVI, p. 267).—H. C. Mann amplifies his previous communications on this subject, and gives figures from some 3000 cases of "summer diarrhœa," noting the influence of the temperature, the age and weight of the child in the case and mortality incidence. He finds that "contact cases" are generally of a more severe type, and show more evidence of toxæmia than the primary case. As a result of the inspection of many homes he reports that contact cases are more frequent in the dirtier houses. The author bases his treatment on the view that collapse is the dangerous symptom, toxæmia being usually absent or negligible. Thus, he advises against the use of any eliminant measures, and strives throughout to lessen the loss of fluid and prevent starvation. For these purposes, in addition to repeated subcutaneous salines he employs liq. morphinæ hydrochlor. in 2-minim doses three to five times daily, usually with creasote, and advocates the use of small feeds of citrated milk throughout the acute stages of illness.

REGINALD MILLER.

**The use of hypotonic salines controlled by estimation of the specific gravity of the blood in infantile diarrhœa** (*Brit. Med. Journ.*, 1911, II, p. 1404).—Leonard Rogers has in a limited series of cases found the results so encouraging that he strongly pleads for a more extended trial of the method. The specific gravity of the blood is estimated, and it is found to be considerably above normal. The hypotonic salt solution is injected subcutaneously (or it may be given intra-venously, the best vein in the infant being the internal saphenous just as it crosses over the internal malleolus) at intervals until the specific gravity of the blood has been reduced to a little below normal. The solution used contained 120 gr. of sodium chloride and 4 gr. of calcium chloride to a pint of sterile water, and of this solution 7 oz. were used for each injection. Further, from  $\frac{1}{2}$  to 1 gr. of calcium permanganate was added to each pint of the fluid, with which the stomach and large bowel were washed out at the commencement of treatment, in order to destroy and remove as much as possible the toxic products of the gastro-intestinal tract. Löbisch (*Semaine Méd.*, 1911, XXXI, p. 564) has reported six cases of infantile cholera which he has treated by means of intra-venous injections of a 1.5 per cent. solution of sodium chloride. He has injected into the saphenous vein (once only subcutaneously) 150 to 230 c.c. of this solution warmed to 37° C. The infants were aged from four to fourteen months; they were drowsy, cyanosed, and showed all the symptoms of cardiac insufficiency. Some minutes after the saline injection the apathetic little patients opened their eyes and began to cry, the cyanosis disappeared and the diarrhœa stopped. At the end of two or three days the infants had returned to their normal state and were able to be fed as previously. J. ALLAN.

**Treatment of gonorrhœa in girls** (*Journ. Amer. Med. Assoc.*, 1912, LVIII, p. 1564).—Morrow and Bridgman report the results of treatment of 300 cases of gonorrhœa in young girls at the State training school for girls in Geneva, Illinois. They make the remarkable statement that 55 per

cent. of the girls admitted to this institution are infected with gonorrhœa. In most cases the disease affected the cervix. As regards treatment they consider douches worse than useless, and when used in conjunction with other treatment prevent the action of the latter. For cases in which a speculum can be used they recommend the application of 25 per cent. silver nitrate to the cervix and 10 per cent. to the vagina, followed by an application of 25 per cent. iodoform-glycerine. This treatment is not improved by the use of gonococcus vaccine. But the latter is recommended in little girls, combined with local cleanliness. Vaccines, however, are of most use in cases with joint complications.

C. F. MARSHALL.

## Reviews.

CONFÉRENCES PRATIQUES SUR L'ALIMENTATION DES NOURRISSONS. By Dr. P. NOBÉCOURT. Paris: Masson et Cie., 1912. Pp. 250 + xx. Price 4 fr.

THE book consists of a course of fifteen lectures on the feeding of infants with a preface by Prof. Hutinel. The earlier lectures deal with the development of the child and its physiological needs, the composition, etc., of human milk, and the technique of breast-feeding. The subjects of wet-nursing and the hygiene of the nurse and mother are also admirably dealt with. In the lecture on cow's milk some useful analytical tests are given, and excellent advice is tendered as to the choice of the cow, its feeding and housing and its milking. The organisms found in milk are described, and the various processes of sterilisation are discussed.

In Lecture VIII the author deals with the modification of cow's milk necessary for the child's requirements, and in connection with condensed milk he has a justifiable hit at the English by saying somewhat sarcastically that it is much used in London for the feeding of infants among the poor. Dried milk, it is interesting to note, is not extensively employed in France.

Lecture X, on the effects of defective artificial feeding, contains some valuable observations on the physiology and the maladies of the cow, and the writer is of the opinion that the frequency of the transmission of tubercle by means of cow's milk must not be exaggerated. In the following lecture are some interesting remarks on the milk of goats and the variations in its constituents in different species. Ass's milk is also dealt with, and an excellent comparison is drawn between the effects of natural and artificial feeding.

The subsequent lectures are occupied with the subjects of weaning, its results when badly conducted, and the food-value of various articles of diet. In the concluding discourses Dr. Nobécourt advocates the protection of nursing mothers and the State compensation for loss of work entailed by child-bearing. The various societies in France for providing maternity benefits are touched upon, and the protection of infants by means of *crèches*, *consultations de nourrissons* and *gouttes de lait* is described. All these things, though not as yet perfect, seem better and more extensively organised in France than in this country.

The whole subject is treated in a very masterly manner, and the book will be read with profit both by those who seek to learn and also by those who think that they are already familiar with the subject. Dr. Nobécourt writes in a delightfully easy style, and has produced a book which deserves to

become popular in other countries besides his own. The printing of the book is excellent, and there is a very complete index, a feature which is often wanting in foreign publications.

T. R. W.

THE CARE OF INFANTS AND YOUNG CHILDREN. By A. DINGWALL FORDYCE, M.D., F.R.C.P.Ed. Pp. 158. Edinburgh: E. S. Livingstone. Price 1s. 6d. net. Cloth covers 2s. net.

DR. DINGWALL FORDYCE's attractive hand-book leads off with an excellent description of healthy infancy, and Professor Preyer's observations on the ages at which various powers are acquired are arranged in a handy tabular form.

Wise guidance is given concerning infant feeding, and it is pleasing to notice that barley-water is condemned. The abuse and the occasional use of the most widely advertised patent foods are emphasised, and the period at which each brand is likely to be of service is clearly indicated. In the section on hygiene the author states definitely the earliest dates on which newly born infants may be taken out of doors—a useful piece of information for those about to enter practice. Interesting remarks on infantile mortality and its relation to social conditions are followed by a cursory description of some of the commoner ailments of infancy. In the brief reference to syphilis it is implied that the mother of a syphilitic is not herself syphilitic. This is surely, in the light of recent research, likely to give rise to serious neglect.

In the section on feeding the citration of milk is fully described; this is a method which is certain to become popular, especially in municipal work.

It is surprising to see a mild condonation of the dummy teat. Its power to deform the palate is ignored.

When dealing with rheumatism the author makes no mention of the undoubted tendency of the red-haired to this disease, and to the nervous instability of these children. A simple clinical point of this nature should be insisted on in a popular treatise.

This excellent little work concludes with a chapter on health visitors, and the necessity of such officials to a properly organised hospital out-patient department.

C. R.

SIXTH ANNUAL REPORT OF THE HENRY PHIPPS INSTITUTE FOR THE STUDY, TREATMENT AND PREVENTION OF TUBERCULOSIS. February the 1st, 1908, to February the 1st, 1910. Published by the Henry Phipps Institute, Philadelphia, 1912. Pp. 137.

AFTER statistics relating to clinical and pathological work, this report concludes with certain papers detailing experimental work in which the Directors act as Editors. Under "The Relation of Intestinal Absorption to Pulmonary Anthracosis," Dr. C. Montgomery, after full consideration of the views of Calmette and Guérin, gives details of his own experiments which lead him to the opinion that the alimentary route is practically a negligible quantity. As a result of experiments by Dr. D. Blackwood, jun., as to whether the virulence of the tubercle bacillus might be attenuated or lost when submitted to the action of an extract of the pancreas, it was found that the bacilli (in the case of animals susceptible to tuberculosis, such as guinea-pigs) did not have their virulence modified, though they could be slightly digested and have their virulence reduced by the gastric juice. A report on the ophthalamo-tuberculin reaction, by the same investigator, states that no injurious effects on the eyes have occurred from his



application of this method, and that there was a negative result when a previous lesion had healed; and, in rapidly progressing cases, the degree of reaction was of no value in prognosis and had no relation to the extent of involvement of the lung. An investigation by Dr. E. Burville Holmes into the finding of tubercle bacilli in the blood of tuberculous patients, as reported by Rosenberger, concludes that a probable source of error was the distilled water used, and that tubercle bacilli do not constantly circulate in the blood, though they are occasionally present. Thus the research agency of the Institute is fully maintained since, in 1910, it was placed under the control of the University of Pennsylvania.

J. E. B.

THE PREVENTION OF DENTAL CARIES. By J. SIM WALLACE. Pp. 71. London: The Dental Manufacturing Co., 1912. Price 1s 6d. net.

DR. SIM WALLACE'S interesting book was fully reviewed in the April number of this JOURNAL. The increase in size is due, not to an increase in matter, but to improved printing and a more convenient shape. With some trifling additions to the bibliography the volume under consideration is practically a reprint of the first edition. In view of Dr. Wheatley's researches in Shropshire, which clearly bring out the fact that caries depends upon the amount of sweetmeats consumed, Dr. Wallace's statement that the bon-bon craving can be restrained by proper feeding with fruit is of peculiar interest.

C. R.

THE CARE OF INFANTS AND YOUNG CHILDREN IN HEALTH. By MILDRED BURGESS, M.D. London: H. K. Lewis, 1912. Price 1s. net.

SINCE this excellent little work was reviewed in this JOURNAL its favourable reception has necessitated the publication of a revised and enlarged edition. Dr. Burgess has added some sound remarks on the care of the teeth and the necessity for the dental attention of the temporary set. She is sufficiently a convert to the views of Dr. Sim Wallace to recommend hard crust for young children in preference to the soft food of the older physicians. But hardly sufficient emphasis is laid upon the fact that the food and not the tooth-brush is the important agent in cleansing the teeth and preventing decay. A table of the normal increase in weight of the infant is needed.

C. R.

FEEDING AND CARE OF INFANTS AND CHILDREN, WITH SPECIAL REFERENCE TO CASES OF DIFFICULT DIGESTION. By NURSE HUGHES. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Price 2s. 6d.

WE have received a copy of this little book, which is primarily meant for mothers who have to rear their children by artificial feeding. Nurse Hughes has been privileged to work under Dr. Eustace Smith, and it is at his instigation that she has been prevailed upon to write this small volume. After some short chapters on the hygienic care of infants she deals with the question of feeding, and she gives sound, sensible, and practical advice on this matter. To illustrate the methods adopted she includes histories of six cases which have been under her care. In the last chapter there are remarks on the dietetic *régime* of older infants and young children. The instructions are clear and simple, and should be easily understood. The book should prove of the utmost service to all interested in the subject of infant feeding, including medical practitioners, especially those who are just qualified, as their knowledge of this matter is in many cases somewhat limited.

J. A.

THE  
BRITISH JOURNAL  
OF  
CHILDREN'S DISEASES.

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VOL. IX.

NOVEMBER, 1912.

No. 107.

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**Original Articles.**

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SOME CONSIDERATIONS ON INFANT FEEDING.

By F. G. CROOKSHANK, M.D.Lond., M.R.C.P.,

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THERE are two ways in which the art of medicine may be rationally advanced. Mere practice leads only to empiricism; but if hypotheses be constructed on the basis of clinical experience, and such hypotheses be subjected to the test of particular investigation, whether at the bedside, or in the laboratory, the method of Bacon, or rather what is called the Baconian method, is being strictly followed. The other plan is to formulate theories, on the basis of laboratory experimentation (either *in vitro*, or on the lower animals) and to apply these theories to medical practice. This is what is called the method of scientific medicine.

It is only natural that the first method should be most in favour with those whose activities are practical rather than didactic. But, unfortunately, the rational hypotheses of the practical man are invariably called fanciful by those persons whose pre-occupations are mainly academic, and whose notions are based, therefore, not on the shifting sands of clinical experience, but on the firm rock of chemical, physical, or physiological investigation. Yet the method of hypothesis is that which, in the hands of men such as Manson, has really opened up the vast field of tropical medicine; while the second is that which is responsible for what may be called the "boiled milk"

episode in pædiatrics. The one method is that of inductive logic ; the second is deductive, and not always accurately so.

It is without doubt the modern habit of ignoring what in clinical experience is inconvenient that is accountable for the strange phases through which medical orthodoxy, in the matter of infant feeding, has passed of late years.

Now, an unfortunate consequence of these flickering changes in doctrine is that we have, throughout the country, stratified deposits of medical men. We meet with those who, trained before the nineties, have never believed in boiling milk ; there are those of a later epoch, who believe in ebullition ; there are the sworn pasteurisers ; and most recent of all, those who disbelieve in boiling milk except on occasion. It is little wonder then that the public are getting bemused, and that heated arguments occur at suburban tea-parties on the merits of rival specialists, practitioners, and ordinances. Yet, there has been some measure of truth in most of the doctrines that have fluttered across the screen in these years ; the disadvantage of this flickering thought is that it is so difficult to get a composite presentation, and so easy to be influenced by the impression of the moment.

It is so easy, for instance, to gibe at the poor for giving baby a bit and sup "of what we 'as."

Yet many a poor man's child has been, by bits from his father's plate, saved from the troubles that have attended those children of the rich who have endured a devitalised diet under high authority. Scurvy-rickets of what we love to call the "classical type" may be relatively uncommon ; but the minor manifestations of the same condition are far more frequently met with than is recognised by those formal people who declare that one either "has a disease, or hasn't it."

It should be trite to say that the problem of infant feeding is one of maternal feeding. But it is not ; and even the socialistic persons who asseverate it do not appreciate all that their statement implies. Without doubt the proper feeding of an infant is very largely secured or lost by the feeding of the mother, not merely from the moment of childbirth, but from the date of conception ; yea, and earlier. It is obvious enough that, in a general way, not only the power of a mother to suckle adequately, but the assimilation capacity of the infant, depends on the state of nutrition during pregnancy. And there is another and more particular factor with which we have to reckon ; the adequate stimulation, or the lack of stimulation, of the maternal glands, not merely by general feeding, but by par-



ticular substances ; not merely during pregnancy, but during the years precedent to pregnancy.

Bertolotti, Citelli, Poppi and others have familiarised us with the notion that there is a great group of body-states that may be conveniently referred to as the dysostoses, that depend on pre-natal influences in large measure, and that are apparently manifestations of "humoral conditions" resulting from altered balance between the members of that wonderful complex into which the pineal, the pituitary, the accessory hypophyses, the thyroid, the thymus, the testicles, and the lymphatic glands all enter.

Extreme forms of these dysostoses are known to us as cases of achondroplasia, of cretinism, of "rachitism," of Mongolism, of "adenism" and so forth. But lesser departures from the normal, not deserving of these imposing names, are to be met with all around us.

Now there is not a little evidence that the polyglandular balance is profoundly modified by the presence or absence of almost infinitesimal ingredients in the ingesta.

We know, for instance, that a something, which so far has eluded detection, in water consumed by a mother, will determine a cretinous condition of her offspring. If so little may determine so much, may not the still less be responsible for a great deal also?

We admit that what the French call "*la misère*" is apparently one factor in the production of Mongolism. But is it certain that the lacking something that produces Mongolism is not really an ingredient commonly in default, no doubt in certain states of poverty, but also, though in lesser degree, sometimes where there is no actual poverty?

Funk has now apparently been able to show us that an almost incalculably insignificant particle of a pyrimidine base is that which, *in absentia*, is a constant element in the causation of the polyneuritis of fowls, and of other disorders. It is not irrational to suppose that the presence or absence of at least as tiny amounts of other substances may be responsible for the grosser forms of "dysostosis." And if so, how much more elusive may be the quantities and qualities that may underlie the minor deviations from a normal balance?

We are getting used to the notion of hormones—substances insignificant in quantity, that determine glandular activities. But are all the hormones on which we depend for the keeping of an harmonious balance between our internal secretions autogenous?

Are not some of them derived from our food?

A number of years ago I delivered a young and healthy but

foolish young woman of an achondroplastic infant that was stillborn. The mother, who had been excessively annoyed at this, her second pregnancy, had lived for eight months on tea, biscuits, and a patent food, in order that she might keep thin, and not have a big baby.

It is difficult not to believe that the achondroplasia was connected ætiologically with the mother's dietary, for the first child was normal, and there has been a normal child since. I do not suggest that tea, biscuits and a patent food may, in themselves, be severally causes of achondroplasia. But it is hard not to believe that something was lacking that should have been present to stimulate the internal secretions of the unborn infant. This is an extreme instance, but it seems to give a clue to the understanding of lesser deviations from the normal, and of the various "rickety" conditions that are sometimes seen in breast-fed babies.

Moreover, it seems pretty clear that the defective suckling power of many mothers is due, not merely to quantitative under-feeding, but to lack, during pregnancy or after delivery, of what may be called biological galactagogues.

Farmers know that such things exist, even if our pharmacologists are sceptical. And I do not see how else one may explain that often when the usual prescription of abundant London milk has failed to promote lactation, a sound meal of underdone chops with a glass of good malt beer will successfully accomplish what the fat, sugar and proteid of no "milk-food" has been able to do.

It is not improbable that in a great deal even of the unboiled milk that is taken by mothers and by babies there is a hitherto unsuspected biological default. Orticoni and Lahache, in a suggestive note, have recently drawn attention to the profound difference that obtains (apart from what is shown by gross chemical analysis) between the milk of a cow fed on natural food of good quality, and that of one fed overmuch on oil-cake composed largely of fermenting copra. And here is a double lesson. When we investigate the suitability of a cow's milk for a mother or a child, we must not only assay the proportion of fat and of proteid and estimate the bacteriological purity, but the biological value as well.

A cow is an efficient milk-producer only by virtue of an immemorially prolonged process of selective adaptation to a natural environment, assisted by the intelligent empiricism of husbandmen. Of this environment, lush pasturage and sweet hay are no small part.

But if we feed our cows on copra that has lain fermenting on the

beach of a coral island, we are varying the environment ; to put it mildly. We are interfering with the adjustment of the selected stock to its purpose. And when the food of a nation is changed in biological values, albeit the gross proportion of carbohydrate, fat, and proteid remains the same, or is even theoretically bettered, the adaptation of the people to their performance of natural or biological functions is seriously compromised. Yet this is what is being done, at great rate, for the town-dwelling masses of to-day. The "privileged classes," who do not recognise that their primary function is that of reproduction and nurture, are enabled to save their stirp some of the ill-consequences of over-civilisation, by invoking, as Royalty still does, the aid of a peasant woman to perform vicariously some maternal functions. Why does experience teach that it is best for a peasant to be summoned to perform functions which a mother may not, or cannot carry out ? Why should not a town-bred product of civilisation and education be selected ? Surely because the peasant, like the cow, is efficient biologically—is a result of biological adaptation to a natural environment, living on the food which has produced her race.

It does not seem unreasonable, then, to suggest that the solution of the problem of infant feeding is not a question of elementary chemistry, is not one in the hands of the bacteriologists, or even in those of the hospital physician or the medical officer of health, but lies in an acuter realisation of the importance of the biological factors at play ; and in the biological qualities, not merely of the food given to mother or child, but in the biological values of the food on which the cows and other animals are nurtured that supply the human aliment.

It is as nothing to suppose that feeding the masses on a colourable imitation of the rich man's table will advantage the race.

The wife of a cottager is better fed, biologically, on whole meal bread, even if black ; on fresh milk, even if skimmed ; on home-made cheese, even if sour ; and on oatmeal, even if savoured with salt only ; than is her town-dwelling sister, on frozen mutton, tinned tomatoes, condensed milk, and packet tea. Even kitchen-maids will now have the "best lump" sugar in their tea. Their lives would be less chlorotic and constipated, and they would be better mothers in their turn, if they would be content with what the grocers call "pieces." Surely it is to the cumulative effect of little things that we have to look, rather than to the singling out of one causative agent. This is better realised by those skilled in flocks and herds than by theoretical meliorists.



It seems a pity that the custom of employing wet-nurses is not more generally adopted in this country by those who can afford it ; but prejudice, for one thing, seems to militate adversely. In the absence, then, of an efficient mother, or a suitable foster-mother, appreciation of the biological factor in food compels the adoption of some " living food," as Dr. Poore used to say, in the place of the natural aliment of infants. And obviously, we first turn to cow's milk, in some modification or another. But there is, rather singularly, little appreciation of the milk of asses, although at least one herd of milch asses is efficiently maintained in London.

Since, however, for practical purposes, the milk of a good cow is most like that of a human mother, biologically if not chemically, it is to cow's milk that we must turn. But surely it should be axiomatic that any modification made of the milk supplied by the cow should involve as little interference as possible with what, until the chemists have made synthetic milk, we are bound to consider its vitalistic qualities ; or with what the unlettered call its " nature."

And we must recognise to-day that, in spite of all the ink that has been spilt in the last twenty-five years or so, practical experience shows us that, if the child be healthy, and the cow well fed and kempt, far less modification is necessary than the ingenious tabulists have declared. After all it has never been shown that human milk varies during the months of lactation in accordance with the percentage tables that have been put forward so confidently.

No one can fail to be impressed by the wonderfully successful results that attend, even amongst the poorest, Dr. Langmead's plan of giving undiluted, unboiled milk to which a few grains of citrate of soda have been added. And of course there are many empirical people up and down the country who, beginning with simple dilutions, rapidly accustom babies to take plain cow's milk without any citrate at all. The fact seems to be that, if a healthy, well-cared-for child " starts fair," it may, in the absence of intercurrent bacterial infection, exhibit an elasticity and resourcefulness in digestion that is infinitely surprising to those whose experience has been chiefly amongst the poorer and most degraded, physically, of the population—the hospital out-patients—for whom too often the only accessible cow's milk, in summer time in London at least, is a horrible infusion of filth better displaced in favour even of " patent foods." But still, while realising to the full the truly brilliant results that may immediately follow the citrated whole milk plan, one has to remember that no method of infant feeding can be fairly assayed until puberty is either past or at least near at hand. It is not until the epiphyses are well on their

way to fixation, and the sexual glands have taken up their part in the polyglandular complex, that we can be sure that the foundations have been well and truly laid.

And if some statistician will but take the trouble to ascertain as fairly as he can the relative fertility and maternal efficiency, from the lactiferous point of view, of mothers who were artificially fed themselves, I feel pretty sure that he will find that there is a definite correlation between artificial feeding in infancy and the function of various glands in later life. I ventured to put this notion forward some years ago, but without any support. But Sir Shirley Murphy has recently developed the idea that the falling birth-rate is less dependent than has been generally thought on artificial restrictions, and I am glad to have his support thus far at any rate.

Of methods alternative to Dr. Langmead's, that which has served me best for the last twelve or thirteen years is the giving of unboiled cow's milk, diluted to some extent, with the addition, in small quantity, of some malted food.

And I have been interested to read a recent and very practical paper by Brady, whose experience is great, and who finds that the addition of malt and "polycarbohydrates" to the milk wherewith young babies are fed is highly advantageous, and gives him better results than any percentage method of feeding. As he says, experience must always over-ride theory.

There are two malted foods that are pre-eminently useful; the first contains dried milk, with malt, some converted starch, and now, I believe, added citrates. The second is a member of a well-known series of foods, and, though professedly compounded for children over six months or so, has been found from experience to be perfectly suitable for much younger infants. It has not, however, the advantage possessed by the food first mentioned of being preparable at a pinch, and in time of illness or summer heat, without fresh cow's milk.

It is not a bad plan, too, for the first fortnight of life, to use the malted milk made with water alone in any case—a small teaspoonful of the powder to the ounce or more. Then when the meconium has been all cleared away and the body-cells have had ten days or so to accustom themselves to the malt and dried milk, fresh milk can be introduced gradually in increasing quantities, by weekly or fortnightly half-ounces, till, at the end of six months, the child is taking nearly or quite undiluted fresh cow's milk, with a not very greatly increased quantum of the added powder.

The plan is quite simple, and the rationale intelligible. Malt

itself has a biological value : it tends to affect favourably the massing of the curd ; it is slightly laxative, and as a fat former it compensates, if compensation be needed, for any deficiency in cream. The stools are perhaps rather bulky when it is taken ; but they are yellow, and resemble those of one who is well sown with *B. bulgaricus*.

If either variation in the child's health or in the supply of cow's milk demands it, modification can be easily made. In intercurrent illness, or when travelling, the meal can be prepared with water only ; if there be any looseness of the bowels, the proportions of cow's milk may be increased ; if there be constipation, more water or more powder may be given. If the cow's milk be poor, let the mother make the food with top milk, or add a little cream, or increase the amount of powder given.

I have used the method in several hundred cases that I have been able to follow up, and have seldom had any failures—hardly any, perhaps, when there has been loyal co-operation on the part of nurses, and non-interference by friends. Many of the children so fed have now passed well into their second dentition and are within hail of puberty. I have seen no case of rickets that has been thus fed, and the first dentition has been capital, though perhaps not early.

At seven months children so fed are usually ready for some promotion, and can digest farinas in good time.

But alarms and excursions are frequent in pædiatric practice, and perhaps a few practical suggestions will bear setting down in print.

Albumin-water, of course, is well enough, but in practice amongst the poor it is not always found to be "understood of the people" : eggs are hard to come by, and seldom fresh. Moreover, since no boiling is involved in its preparation, the dirtiness of utensils may result in putrefactive microbes, at least, getting in with the food.

But even the very poor can as a rule get a few pennyworth of arrowroot from the chemist, and a little goes a long way. Only it must be Bermuda arrowroot, and from the chemist. Otherwise it is a delusion and a snare. A little Bermuda arrowroot, well boiled, and taken nearly cold, is of the greatest advantage when food has to be given in acute diarrhœal disorders, after the preliminary clearance has been accomplished. Moreover, as the child picks up, the arrowroot can be boiled with broth, and so the day of return to the peccant cow's milk staved off. Not once, but many times one has found children thrive for weeks and even months on a diet of broth thickened with arrowroot (boiled in it, and sweetened with a little sugar). Indeed, the use of broth (especially veal broth) seems to be often



neglected, and one has marvelled to see, even at distinguished clinics, mothers scolded vehemently for having given it to their children instead of milk in the summer. Yet, however much one may believe in the necessity for milk, there are few summers in which it is not necessary, for a few weeks, either to boil the milk or to prohibit its use. And the change to broth, either of veal or mutton, is often advantageous. The best way to make mutton broth is to take a breast of mutton, and to prepare the broth from it after splitting up the sternum and ribs. The broth that is then prepared contains not only albumin and fat, but marrow and minerals as well as gelatine; and it is anti-scorbutic in a way that boiled milk is not.

The importance of giving gelatine to the infant seems another point that is frequently ignored. Practically, there can be no question of its expediency oftentimes. A tiny infant, in times of sickness, will benefit by a few spoonfuls of plain jelly made at home from packet gelatine; and for those a little older the jelly into which good broth sets may be advised. Since both these forms of jelly melt at a low temperature, they easily slip down the throat. But milk-jelly, highly valuable as it undoubtedly is, does not melt, and has to be swallowed almost as a solid. Any child who can digest cow's milk can, of course, digest both junket and milk-jelly; the absurd reproach that I have known addressed, in surreptitious consultation, to mothers, for having given "such improper solids" as junket and jelly, seems, then, a little undeserved. Indeed, since junket is virtually a natural modification of cow's milk, one would, *a priori*, expect it to be, as it is, of the greatest practical value. Nor should either milk or buttermilk be forgotten. Both have their values, and practical acquaintance with the details of whey-making will serve the practitioner in good stead. Incidentally it may be pointed out that milk which will not make good junket (and, of course, good whey) is of indifferent biological value, and to be prohibited, whatever its bacteriological purity or chemical composition.

This is a piece of grandmotherly lore worth bearing in mind, as is, too, the old-fashioned plan of adding to junket, broth, or other foods, a little powdered nutmeg or cinnamon. Cinnamon is an excellent antiseptic and astringent, and the judicious use of such spices in foods saves the necessity for giving them in medicines.

Again, in dealing with the case of children in their second year, hospital experience seems to load the dice a little unfairly against the vigorous middle-class baby. If questioned: On what should a child of a year and upwards be fed? the reasonable rejoinder is to

ask on what the child has been fed. For, within limits, the digestive capacity of the yearling is determined by the *régime* it has undergone in its first months of life. And, provided that it is well forward with its teeth, and the food offered it is good of its kind and properly prepared, a healthy child, who has not been kept back on peptonised food and so forth at first, can, later on, take many things with advantage that little books advise mothers to withhold. Many mothers, too, are met with who declare that they have been told by imposing authorities not to give this, that, or the other, but beef-tea or raw meat-juice instead. And so one sees children growing up unable to chew, with teeth falling into decay from lack of use, with imperfectly developed jaws, with stomachs that secrete no pepsin, and with salivary glands that secrete no ptyalin, and with livers harried by the totally unnecessary extractives given them in their beef-teas. When the mother's watchword is No fat, or No sugar, or No meat, the result surely is a lop-sided metabolism that does not find expression in those who are fed on a judiciously mixed diet.

The worst of it is that mothers are so apt to become obsessed by the importance of carrying out *in perpetuum* what may have been advised as a temporary expedient with success. And the results, in later years, of perverse adhesion to advice proffered in the course of a single consultation are seen, not seldom, to be most unfortunate.

That bacon-fat is digestible is a bit of practical knowledge that might be more often applied than it is. Cream is hard enough for anyone to come by in London. But cold boiled bacon is within the reach of almost all. Many years ago, when doing *locum* work in Wiltshire, I used to see mothers cut off a hunk of cold bacon fat, bore a hole through it, and suspend it round baby's neck with a piece of string. Baby would suck away all day at the plug of fat like an Eskimo with his blubber, and, what is more, thrive on it. Surely far better than a comforter! And anti-tuberculous to boot.

We appreciate the necessity of keeping fat if we want to keep the *B. tuberculosis* at bay; but the teachings of Robin in respect of demineralisation ought also to be borne in mind when considering the requirements of young children. For whenever there is tuberculisisation, there is demineralisation of the system; and demineralisation itself is no small encouragement to the bacillus. There can hardly be question of that. Probably not only does part of the value of whole meal bread lie in the mineral salts that it contains, but much also of the value of the practice of boiling barley

and rice in stews and broths which may be, after straining, given to young children. And bigger children, were it not for the sake of company manners, might well be taught to eat the skins of their apples, and the jackets of their roasted potatoes, to say nothing of the "skin" of fish like plaice. The importance of the mineral salts in food articles is, however, perhaps two-fold. There is the necessity for a supply of material to be incorporated in the bones and cartilages (and Robin has insisted on the need for fluorine and silicon), and there is also the question of the stimulating action of the minerals, or certain of them, on the pituitary and thyroid glands. The old-fashioned, tall, bony, high-cheeked Scotsman was undoubtedly a hyper-pituitary person; but his descendants, who despise the "curry aitchmeal," are losing the racial characteristics. There is, indeed, a very great deal of sound philosophy in the recent paper by Dr. Stewart Mackintosh in the 'British Medical Journal,' anent "Native Air." A great deal that he says about native air may well be read in connection with "native food."

What is true of the cows is also true of the human race.

A nation, or a tribe, if not a family, rooted on the soil, has become what it is by adaptation to a particular environment, of which the food and drink of the locality is not the least important feature. With alteration in feeding habits, racial characteristics—and not only those which are physical—become altered.

Food habits and, *ergo*, racial characteristics, linger longer amongst the peasantry than in any other class. In England, political and social changes have altered the food habits of the poorer classes at an alarming rate of recent years. It has almost become a creed with some that the less wealthy should abandon the food habits of generations. And so, though we still recruit our police force from the rural districts, each year we have to cast the net wider in order to bring in an adequate number of young men up to the proper standard.

How it is to the remotest and poorest districts that we have to fling the net, because it is only there that the peasantry are, without knowing it, refraining from interfering in the natural processes of adaptation to environment in the matter of food. But, of course, in London the whole environment is changed, with what results all may see who think.

The question of infant feeding is, then, one of infinite complexity. If we have to look back for generations to trace the source of some of our difficulties, so also we have to look far ahead when considering the ultimate result of the measures we advocate.



And yet, it may be that the stomach-ache of the Belgravian baby of to-day depends on the ingestion, by a cow in Wiltshire, of ketones that originated in copra drying on a Polynesian beach. Unconscious appreciation of the biological, or of one of the biological values—the hormonal—of food is shown when the farm-hand swallows the testicles of the animal that he castrates, and the Sussex fisherman scrapes the spawn from the living lobsters that he finds in his baskets. Nay, it is not improbable that there is justification, from this point of view, in the cannibalism of Africans, and the more disgusting practices of Australian aborigines. The hormones absorbed are, if not autogenous, at least homologous. And obviously, mother's milk has an homologous hormonal value. But there are two other biological values of food, of which one at least certainly pertains to breast-milk. Both these values have relation to defence against microbic infection. The first is sufficiently indicated by the suggestions, of Rost for the case of leprosy, and of Manaud for the case of beri-beri, that the growth of the microbe does in the former case after all gain encouragement from a fish diet, and that the substance which Funk has isolated, in the second case, is one which may be absent from the dietary without beri-beri occurring if there be not the intrusion of a contagious element. It is at any rate clear that seemingly inconsiderable chemical substances may play an important part in the defence of children or infants against microbic infection.

But in a valuable essay Mannu af Heurlin has recently collated many facts which show us that specific antibodies pass from mother to fœtus through the placenta, and also even more easily from mother to child through the milk. Moreover, if a hen be submitted to antigen, a specific antibody may be recovered from her eggs. Such findings as these must make us consider what may be the effect of giving infants milk which, though it does not contain living tubercle bacilli, may yet contain inactivated thermostabile antibody. Practically, then, our lesson is that healthy infants are best secured by feeding the mothers. But in estimating the value of foods for mothers we must disregard both false social standards and incomplete laboratory results. We must select the foods which are least interfered with in manufacture or in cooking; and in general it is the food of the country that is best for the people of a country. If any logical person cares to point out that there is no "food of the country" for the Londoner, born and bred, I will not quarrel with the deductions that may be legitimately made.

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## THE CUTANEOUS REACTION TO TUBERCULIN IN CHILDHOOD.

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APART from subcutaneous injection, various methods of applying tuberculin for diagnostic purposes have been recommended. For practical purposes the cutaneous method of von Pirquet is, in children and out-patients at any rate, by far the best, being safer, easier, and probably more reliable than the conjunctival, while the intradermal method is painful and less easy to perform.

S. von Ruck gives the following figures, which show that the cutaneous test approximates more closely in its results to the subcutaneous than does the conjunctival.

	Cases.	Number giving a reaction.		
		Tuberculous. Per cent.	Suspects. Per cent.	Non-tuberculous. Per cent.
Subcutaneous . .	7088	89·88	63·34	51·30
Conjunctival . .	6449	79·20	57·80	13·73
Cutaneous . .	6504	85·59	67·48	31·62

*Technique.*—This is now well known, but one or two points must be emphasised.

Until recently 25 per cent. tuberculin, applied after the epidermis had been removed as in vaccination, was recommended, but MacNeil has found better results from undiluted tuberculin rubbed into the unbroken skin. In the majority of cases 25 per cent. tuberculin is strong enough to be reliable, but a few cases which do not react to a 25 per cent. solution give a reaction with undiluted tuberculin. On the other hand vesiculation may follow the use of undiluted

tuberculin in cases which react strongly, and this is an unpleasant though ultimately harmless complication.

Although 25 per cent. tuberculin was used in my cases, my figures show a rather higher percentage of positive results than MacNeil's, probably because they include more of those which were suspicious clinically.

On the whole I am inclined to think that MacNeil's method is the best on account of its greater reliability, but the tendency to cause vesiculation is certainly a disadvantage, and my experience has not yet been great enough for me to make a final judgment.

Since in some cases the reaction may come and go within a few hours and in others may be delayed, it is advisable to see the child at least once daily, and also within six hours of the application of the tuberculin, if possible. In practice this is often difficult in dealing with out-patients, but the child should be seen on the first and second days following the testing and again in a week's time, and special watch should be kept on doubtful cases.

A large number of tests made to show whether the fluid used to dilute the tuberculin or the manipulation of the skin could cause a reaction gave negative results in practically every case, and it can be assumed that a solution of 20 per cent. glycerine and 0.5 per cent. carbolic acid very rarely has any effect in causing a reaction. The results are treated in detail later. Other results also given later will show that a single negative test is not conclusive, and that a repetition is necessary before tuberculous infection can be excluded.

*Specificity.*—The evidence, gathered from comparing the results of tuberculin tests, post-mortem records and clinical examinations, taken together with experimental evidence shows that the test is specific.

Many of the criticisms levelled at the test have been founded on faulty premises, faulty interpretations and faulty technique. It is not possible to enter into details here, but von Pirquet, Hamburger and Monti, Nothmann, Comby and many others give figures showing the frequency with which a reaction is found at different age-periods; and, properly interpreted, their results agree. Further, these results agree with pathological findings, as can be seen from figures given by observers in all parts of Europe and America.

K. von Ruck, Irimescu, Mantoux, Lord, Lawrason Brown and others all bring forward experimental evidence of the specificity of the test. I cannot summarise better than by quoting von Ruck, who says: "The specific nature and value of tuberculin as a diagnostic agent do not appear to be refuted by the objections which have been raised against it. The minimal amounts in which it is active, the



negative results obtained by all three methods of applying it to the newborn, the increasing comparative frequency of positive reactions with advancing age in their approximate harmony with autopsy findings in the non-tuberculous as well as the tuberculous, the occurrence of focal reactions following subcutaneous injection and conjunctival instillation all testify to its reliability," and, I might add, sum up the case as to its specific nature.

*Nature.*—The nature of the reaction is not yet decided. Von Pirquet holds that the reaction is due to the presence of antibodies in the blood, Wolff-Eisner supports the theory of bacteriolysins. The differences between the two theories are too difficult and complex to be dealt with here, and probably the explanation given by Riviere and Morland is the most satisfactory. They state that the tissues of the tuberculous produce a specific antibody (lysin or tuberculo-lysin) capable of breaking down the tuberculin molecule with the formation of toxic products. If no lysin is present the tuberculin simply circulates as a harmless foreign albumen.

*Definition of reaction.*—The reaction consists of redness and swelling of the spot inoculated, the inflammatory process often extending over a larger area than that originally scratched. Rarely the swelling may go on to vesiculation or pustulation.

*Pathology.*—According to Wolff-Eisner microscopic examination of the inflamed area shows an accumulation of lymphocytes and a few giant-cells. The exudative and infiltrative lesions occur in varying intensity, the changes partaking of the nature of the actual disease and only being quantitatively less; they are due to the presence of endotoxin, but do not go as far as the actual disease because no bacilli are present.

*Forms.*—The reaction occurs in several forms.

(1) The ordinary reaction, which appears within twelve hours (four to six hours according to Wolff-Eisner), is at its maximum intensity in twenty-four hours, remains at its maximum for one day and then gradually fades, disappearing about the third or fourth day. A slight redness may remain for a week or more.

(2) The rapid and ephemeral reaction, which appears within a few hours, reaches its maximum in ten to twelve hours and disappears within twenty-four to forty-eight hours. This reaction may readily be overlooked.

(3) The strong and lasting reaction, which appears about the same time as the ordinary reaction, may take two or more days to reach its maximum, remains at its maximum for some days, and then very slowly fades away.

(4) The delayed reaction, which does not appear for one or even two days after inoculation, when it does appear is often quite well marked and may last for several days or weeks.

The "stichreaction" is the reaction left by the tuberculin which reaches the track of the needle when tuberculin is injected, and the "depôt" reaction is the infiltration and thickening to be felt when tuberculin is "deposited" at the site of injection.

*The cutaneous test in 1000 children of all ages up to fourteen years.*—To determine the value of the cutaneous reaction in the diagnosis of tuberculosis in children, I have collected and analysed the results of the tests in 1000 children. These have been chiefly children showing indefinite signs which may point to tuberculosis, and have been of the class that usually attends a hospital. Most of the cases have been attending as out-patients, but for the last two years every case admitted to my ward has been tested: these tests, some 200 in number, are included in the 1000 and are also analysed separately, when the relation between human and bovine tuberculin and the degree of reaction are considered. All the cases tested have been carefully examined clinically by the ordinary methods of physical examination, and tables will follow to show the relation between the test and the result of the physical examination.

The cases have been classified according to the result of the clinical examination into five groups as follows:

(1) Negative cases, with no signs or symptoms and with no opportunity of infection in the house.

(2) Possible cases with neither signs nor symptoms or with very unimportant symptoms such as pallor and slight debility, and in some cases with a history of possible infection in the house.

(3) Suspicious cases with no physical signs but with pallor and debility, some loss of flesh and indefinite cough, and in some cases a history of infection in the house.

(4) Probable cases with no physical signs but with symptoms and a family history that point to a tuberculous illness.

(5) Definite cases in whom the physical examination is conclusive or the sputum gives positive results.

Before we proceed to a detailed analysis of the results it will be of advantage to recapitulate briefly the ideas at present put forward with regard to the meaning of a reaction or to a negative result to the test. It is held that a reaction indicates that the individual has been infected with tuberculosis. On the one hand, the body may have successfully resisted the disease and may have reduced the tubercle bacillus to a state of inactivity so that there are no symptoms

of tuberculosis, or, on the other hand, the disease may have continued to be active. In either case the tissues will react to tuberculin. There are exceptions to this rule, because many cases of advanced tuberculosis with cachexia, and many cases affected at the time by an acute disease such as measles or by a mixed infection, fail to react. Excluding these two exceptions and excluding faulty technique (by a repetition of the test in the same or in another form) a negative result to the test indicates that no tuberculous infection has occurred. Some observers hold that the intensity of the reaction helps us in diagnosis and prognosis: others, again, hold that either the strong form of reaction or the prolonged form indicates a high resisting power, and are, therefore, of good prognosis. We shall consider these points later.

Others hold that treatment with tuberculin may gradually reduce the intensity of the reaction until it reaches vanishing point, but my experience has been that the reverse is the case and the reaction is increased by tuberculin treatment.

Keeping these points in mind, we shall now proceed to analyse the 1000 tests.

The reaction in relation to the age of the child without regard to the clinical condition is shown in the following table, which comprises 1000 children of the hospital class up to fourteen years of age who were patients on the medical side, and of whom a large proportion showed general debility.

Age . . . .	0-2 years.	2-5 years.	5-10 years.	10-14 years.	
Reaction present .	33, or 32	107, or 51.2	270, or 60.6	147, or 60.8	= 557
	per cent.	per cent.	per cent.	per cent.	
No reaction . . .	70, or 68	102, or 48.8	176, or 39.4	95, or 39.2	= 443
	per cent.	per cent.	per cent.	per cent.	
Total number tested	103	209	446	242	1000

This table shows that the number of children reacting to the test increases steadily with advancing age, although probably the increase of infection is not so rapid after the tenth year. Comparing these figures with those of other observers, we have already noted that Hamburger and Monti found the reaction in at least 50 per cent. of children in an hospital for infectious disease. My cases, being hospital patients, and being more or less selected, should show higher proportions giving a reaction.

Before quoting the figures of other observers and comparing them with mine I have recorded the following figures, in order that we may note the difference made by a selection of cases, and incidentally note that the reaction occurs more frequently in the more suspicious



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cases. As the testing proceeded more of the less suspicious cases were tested and fewer of those definite or probable on clinical examination, so that a larger number did not react. Thus the first 517 and last 483 yielded the following results :

Age-period.	0-2 years.	2-5 years.	5-10 years.	10-14 years.
First 517	16 +, 31 - (66 per cent. *)	65 +, 47 - (41 per cent.)	144 +, 90 - (38.4 per cent.)	79 +, 45 - (36.2 per cent.)
Last 483	17 +, 39 - (69.6 per cent.)	42 +, 55 - (56.7 per cent.)	126 +, 86 - (40.5 per cent.)	68 +, 50 - (42.3 per cent.)

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1000

These figures show that in the less suspicious cases comprising the last 483, a smaller percentage of children reacted at each age-period.

The results in relation to the clinical condition and the age-periods are as follows :

(A) *For those not giving a reaction.*

Age-period.	Total number tested.	Clinical examination.				
		Negative.	Possible.	Suspicious.	Probable.	Positive.
0-2	68	31	24	8	4	1
2-5	102	26	42	16	9	9
5-10	180	40	61	44	18	17
10-14	95	25	31	23	8	8
	445	122	158	91	39	35

(B) *For those giving a reaction.*

Age-period.	Total number tested.	Clinical examination.				
		Negative.	Possible.	Suspicious.	Probable.	Positive.
0-2	34	6	10	8	7	3
2-5	103	11	22	25	18	27
5-10	275	19	56	80	44	76
10-14	143	21	26	30	16	50
	555	57	114	143	85	156

These figures show in tabular form the relation of the test to the clinical examination. It can be seen at once that the two examinations give similar results in a large proportion of cases ; the frequency of latent or undiagnosable tuberculosis explains why the figures do

\* The percentages refer to the proportion not giving a reaction.

not show a closer correspondence. In the table relating to those not giving a reaction the larger numbers are all at the negative or possible side of the table, and a converse relation may be seen in the table relating to those cases giving a reaction.

The following Table A gives a complete analysis of all the cases according to age-period, clinical examination and result of the test, and if, as in Table B, the figures are so multiplied that the numbers for those giving a reaction and those not giving a reaction are made practically equal, we can again compare the relation of the test to the clinical examination.

TABLE A.

Age-period.	Reaction.	Total number tested.	Clinical examination.				
			Negative.	Possible.	Suspicious.	Probable.	Positive.
0-2	{ + .	34 + .	6 .	10 .	8 .	7 .	3
	{ - .	68 - .	31 .	24 .	8 .	4 .	1
2-5	{ + .	103 + .	11 .	22 .	25 .	18 .	27
	{ - .	102 - .	26 .	42 .	16 .	9 .	9
5-10	{ + .	275 + .	19 .	56 .	80 .	44 .	76
	{ - .	180 - .	40 .	61 .	44 .	18 .	17
10-14	{ + .	143 + .	21 .	26 .	30 .	16 .	50
	{ - .	95 - .	25 .	31 .	23 .	8 .	8
Totals	{ + .	555 + .	57 .	114 .	143 .	85 .	156
	{ - .	445 - .	122 .	158 .	91 .	39 .	35

TABLE B.

Age-period.	Reaction.	Total number tested.	Clinical examination.				
			Negative.	Possible.	Suspicious.	Probable.	Positive.
0-2	{ + .	68 (34 × 2)	12 .	20 .	16 .	14 .	6
	{ - .	68	31 .	24 .	8 .	4 .	1
2-5	{ + .	103 +	11 .	22 .	25 .	18 .	27
	{ - .	102 -	26 .	42 .	16 .	9 .	9
5-10	{ + .	275 × 2	38 .	112 .	160 .	88 .	152
	{ - .	180 × 3	120 .	183 .	132 .	54 .	51
10-14	{ + .	143 × 2 = 286	42 .	52 .	60 .	32 .	100
	{ - .	95 × 3 = 285	75 .	93 .	69 .	24 .	24

Again we see that if we still bear in mind the frequency and nature of tuberculous infection in children, the relation between the two methods of examination is substantially a close one.

Or if we take the figures \* in percentages, we find the following results in children giving a reaction.

\* These figures are based on the results of 924 tests.

Age.	Clinical examination.				
	Negative. Per cent.	Possible. Per cent.	Suspicious. Per cent.	Probable. Per cent.	Definite. Per cent.
0-2	14·7	29	50	63·6	100
2-5	31·4	33·8	63	66·6	74
5-10	30·7	48·6	66	70	83·1
10-14	51·2	47·2	52·1	66·6	87·7

These figures show two points:

(1) The reaction occurs with a steadily increasing frequency as the clinical examination progresses from negative to definite.

(2) Since the table shows that, the older the child is, the higher is the percentage of clinically doubtful cases giving a reaction, there is greater difficulty in diagnosing tuberculous infection after the age of two years by clinical examination. This is explained by the fact that in older cases tuberculous infection is very common and is not the cause of the illness under consideration. On the other hand, in infants up to the age of two years, an infection has such marked results and is so often fatal that the clinical diagnosis is more easily made.

Thus we see that as indicating a tuberculous illness the test is likely to be of greater value in young than in older children.

*Degree of reaction.*—The various degrees of reaction may each have a separate meaning. Wolff-Eisner's views are as follows: (1) A strong reaction indicates primarily a highly developed resisting power at the time the reaction is taken. It follows that the strong reaction is most likely to occur in cases who exhibit a healing tendency and suffer from a slowly progressive or arrested form of tuberculosis. Still it must be noted that the strong reaction points primarily to high resisting power at the time, and does not guarantee that that high resisting power will not be exhausted if, and as, the disease progresses. (2) A rapid and weak reaction indicates a quick intensification of the disease and an early death, because the resisting powers are low and the system is already saturated with tuberculin. (3) The late and lasting reaction points to a latent tuberculous centre. In these cases, although the resisting powers are high, there is little bacteriolysin actually present in the blood at the time the test is made, and, as the amount of this substance gradually rises, the reaction increases.

McNeil holds that a late reaction indicates wide-spread disease and a mixed infection; he states later that it is his general impression that the intensity of the reaction varies directly with the vigour of the patient. Calmette states that the reaction is more intense when the infection is recent and the defensive powers are good. Von Pirquet



holds that the reaction is more intense if infection is very recent or if progression of the disease has just started. Rozenblat holds that there is no relation between the local reaction and clinical forms of tuberculosis nor between the sensitiveness of the organism and the extent of the tuberculosis. She describes a cachectic reaction, which is faint, with no infiltration, and indicates advanced tuberculosis, and a torpid or delayed reaction which indicates latent tuberculosis.

It is established that there is no reaction in many cases of advanced tuberculous disease exhibiting cachexia and in many cases of mixed infection, and on the whole the form of the reaction seems to have some relation to the resisting powers to the disease.

In those cases tested in the ward it was possible to watch the reactions closely and to follow their course. In some cases the reaction was of ordinary intensity, in others it was classified as slight, strong or prolonged. An analysis of these in relation to the clinical examination gives the following results :

Clinical examination.	Reaction.
24 negative . . . . .	{ 9 ordinary 11 slight 3 strong 1 prolonged
39 possible . . . . .	{ 25 ordinary 12 slight 1 strong 1 prolonged
31 suspicious . . . . .	{ 19 ordinary 7 slight 4 strong 1 prolonged
13 probable . . . . .	{ 11 ordinary 1 slight 1 strong 0 prolonged
41 definite . . . . .	{ 28 ordinary 3 slight 5 strong 5 prolonged
Total, 148 . . . . .	{ 92 ordinary 34 slight 14 strong 8 prolonged

These results are based on too small a number of cases for general conclusions, but they do give indications as regards the slight and prolonged reactions. Slight reactions seem to occur with greater frequency in cases negative or possible clinically and prolonged reactions in cases of definite tuberculosis. But it should be noted that prolonged reactions tend to occur in cases of abdominal or glandular tuberculosis, which are easy of diagnosis and are therefore classed as definite cases. We must also take into account the amount of tuberculin applied.

(*To be continued.*)

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### A CASE OF RHEUMATOID ARTHRITIS IN A CHILD.

By WALTER R. JORDAN, M.D.,

*Hon. Physician, Children's Hospital, Birmingham; Visiting Physician,  
Dudley Road Infirmary, Birmingham Union.*

J. W. B—, a boy, first came under my notice when, at the age of 6, he was admitted into the Children's Hospital on June the 3rd, 1910. He was then a well-nourished child, with no obvious anæmia, but a fairly bright colour; the skin dark and rough. On the back of each hand just below the wrist was a fluctuating swelling, neither painful nor tender; there was no power of extending the hand and the grip was decidedly feeble. There was perhaps very slight enlargement of the left knee. Both ankles were slightly swollen; there was some œdema of the dorsum of each foot; none of the joints was tender.

In the abdomen the liver was palpable three fingers' breadth below the costal margin. Examination of the thorax and of the urine showed no abnormality. There were small rather hard glands to be felt in both axillæ and groins.

The history of the case was that there had been no previous illness at all. The only point of interest in the family history, which was a generally healthy one, was that the maternal grandmother died at the age of fifty-five, having had rheumatism for ten years and being much deformed in the hands. Fourteen days before admission he had had swelling of the neck for two days, then of both shoulders for three or four days, then of the back of the knees, then of the feet; five days before admission his wrists swelled. He had become unable to walk two days before admission. There had been no vomiting, no sore throat, no sweating: he slept badly, his appetite was bad, and he

was constipated, the last condition being habitual, though he never went more than two days without an action of the bowels.

For the first eighteen days after admission the child's temperature was never above normal, and was often as low as  $97^{\circ}$  F. On June the 21st there was a slight rise of temperature, and on June the 23rd  $101^{\circ}$  F. was recorded; during the rest of his stay the temperature was very irregular, reaching  $100^{\circ}$  to  $101^{\circ}$  on three or four days and being very often subnormal. At the time when the slight pyrexia began there was also noted irregularity of the heart; no enlargement, no murmurs, but reduplication of the pulmonary second



sound. By July the 10th these cardiac symptoms had improved, and on July the 26th the boy was discharged, able to walk, his heart normal, and all his joints normal except that there was still some puffiness on the backs of the hands. His temperature was unsteady, and had been from  $100^{\circ}$  to  $99^{\circ}$  in the morning up to within two days of his discharge.

I myself went away for a holiday on July the 18th; I do not think I should have consented to his discharge with such a temperature, but there was great pressure on the beds.

Treatment while in the hospital consisted in salicylate of soda gr. x, with sod. bicarb. gr. x and sp. ammon. arom.  $\text{m}\text{x}$ , three, four, and then five times a day. Salicylate was discontinued on July the 1st, but resumed on the 12th, three doses daily being taken. An iron and strychnine mixture after meals was added a few days later.

Looking back I feel now that there should have been greater



determination in pushing salicylate, and that the discharge from hospital in my absence was unfortunate. The label of "rheumatism" attached to the case was perhaps the only one possible at the time.

I lost sight of the boy until April the 24th, 1911, when he was admitted into the Birmingham Workhouse Infirmary under my care. He had in the meantime been treated at other institutions, his knees had become fixed in a position of flexion, his hips were slightly flexed, and fusiform swellings of the phalangeal joints had developed, while the ganglion-like swellings of the backs of the hands had become very marked. He has remained in the infirmary ever since, and his present condition (August the 12th), is as follows:

Age, 8 years; weight, 2 st. 5½ lb. Fair clear skin, no appearance of anaemia, no pigmentation, no sweating; very little subcutaneous fat, no subcutaneous nodules; marked muscular wasting.

Teeth and gums clean and healthy, tongue clean, appetite good; no vomiting; one motion daily, normal. Abdomen normal; neither liver nor spleen palpable (the spleen has not been palpable at any time).

Lungs normal. Heart normal, but rhythm rather quick.

No glands to be felt in the neck. In the right axilla two or three glands palpable, varying in size from a pea to a bean; in left axilla a rather better marked group of from six to eight glands; in the groins a few minute glands.

In the *shoulders* movement is fairly free, more so in the right; no apparent deformity.

The right *elbow* can be flexed to about 45°, the left to about half that extent; neither can be fully extended; there is general swelling of the right elbow, particularly about the head of the radius, and to a less degree of the left.

The *wrists* are in a position of slight flexion and there is very little movement, the right having more than the left. There is slight general swelling over the carpus on the left; marked, with ganglion-like distension, on the right.

The *metacarpo-phalangeal* joints on the left are freely movable, fairly so on the right; on the right there is enlargement of the first, second and third joints, on the left of the first and second.

The *phalangeal* joints on both sides show marked fusiform swelling with a fair range of movement, but incapability of full extension.

The *hips* are kept flexed and have scarcely any movement; there is no apparent deformity.

The *knees* are kept flexed at an angle of 45° and have scarcely any movement; the inner side of the left tibia appears to be enlarged.

In the *ankles* there is a little movement; no marked deformity.

Of the *feet* there is no obvious deformity, but the left foot is generally larger than the right.

There is no special fixation or deformity of the back and movements of the neck are free. The patient can sit on a chair if the pelvis is held, and in bed sits habitually bent forwards.

The sterno-clavicular joints are enlarged with, apparently, synovial effusion.

There is no pain, except when attempts are made to move the limbs beyond the limits indicated.

There has been no pyrexia for some months, but the temperature is not steady, varying from normal to 97° F. There was, however, a mild pyrexia up to 100° for three weeks, beginning two months after admission; this may have been due to constipation, which was present from admission, having become more marked again after some improvement. Its subsidence coincided with the success of a change of treatment for the constipation. Another period of pyrexia was definitely associated with a change in the general treatment.

The treatment has been salicylate of soda combined with bicarbonate of soda in increasing doses. At the present time the following mixture is being taken and has been since February the 20th, 1912: sodii salicyl. gr. xx, sodii bicarb. gr. xl, sodii sulphocarb. gr. v, aq. menth. pip. ad ʒss, *quinquies in die sumend.* From August the 29th to September the 19th, 1911, salicylate treatment was discontinued and pot. iod. gr. iij with liq. arsen. miiij given thrice daily. Almost immediately the temperature rose, reaching 101° on the sixth day, and the pyrexia persisted, to subside quickly on the resumption of salicylate treatment.

Constipation is now avoided by giving twice a day ext. casc. sag. liq. ʒx, tinct. belladonnæ miv, tinct. nucis vom. miiij, aq. menth. pip. ad ʒij. Pain and pyrexia are prevented by the salicylate mixture, but the ankylosis and the deformities remain unchanged except that the fusiform swellings of the fingers have become rather less. A skiagram by Messrs. Hall Edwards and Emrys Jones on October the 12th, 1911, shows little, if any, bony enlargement.

Massage, passive movements and continuous extension have failed to bring about any more free movements of the limbs.

The outstanding feature of the case seems to me to be the palliative effect of salicylate of sodium, and I believe that if it had been steadily pushed from the beginning the ankylosis and the deformities might have been avoided or much lessened, although it is not usually believed to be of much use in the treatment of this disease.

## Société de Pédiatrie, Paris.

June, 1912. (*Bulletin* No. 6.)

**Lesions of Interarticular Cartilages in an Achondroplastic, aged 3 years.**—M. LEON TIXIER.—The autopsy showed no appreciable naked-eye changes; the line of ossification was neither more or less sinuous nor irregular than normal, but the blue line, corresponding to the normal zone of ossification, was so thin in places that it almost seemed absent. Microscopically the epiphysial cartilage contained less cartilage-cells than normal. The spaces in the spongy portion were larger than normal and filled with a large quantity of bone-marrow. The fat-cells were more scanty than usual; the myelocytes and nucleated red cells exceeded the other cellular varieties. These medullary changes were more probably connected with the bronchopneumonia which caused the death of the child than with the achondroplasia. In the neighbourhood of the line of ossification on the cartilage side, the cells were devoid of proliferative activity. The line of ossification itself was reduced in size. The speaker contrasted rickets as a true hyperplastic dystrophy, with achondroplasia, a hypoplastic dystrophy.

**Osteomalacic Deformities in a Boy, aged 9 years.**—MM. TIXIER and C. ROEDERER related the case of a boy who presented none of the ordinary signs of rickets, and who, at the age of four years, had for the first time pains in the thighs, followed by other deformities. Radiography and other clinical signs excluded a diagnosis of rickets. There were signs, however, of supra-renal insufficiency, such as hypotension, cutaneous pigmentation, and Sergeant's "white line." The symptoms were improved under prolonged adrenalin treatment.

**Congenital Stenosis of the Pylorus from Muscular Hypertrophy.**—M. MARFAN reported the case of a boy, aged 23 days, brought to the hospital for vomiting and constipation. There was nuchal rigidity, slight opisthotonos and general rigidity. No convulsions; fontanelles normal; no undigested milk in the stools; no visible peristalsis, or pyloric tumour. Lumbar puncture negative. The child died five days after admission, the vomiting and constipation having been relieved by suitable feeding. The autopsy showed the stomach dilated and a pyloric tumour, 2 cm. long, of almost cartilaginous hardness. A probe was passed through with difficulty. Microscopically no tumour was found, but the muscular coat was extremely thickened, especially the circular fibres. The speaker alluded to the rarity of the condition in France as compared with England and other northern countries.

**Aortic Insufficiency in a Boy, aged 14 years.**—M. MESLAY reported the case of a boy admitted into hospital for typhoid fever. He presented all the signs of aortic insufficiency without any functional disturbance. There was no history of either syphilis, malaria or rheumatism.

**Complete Transposition of Viscera.**—MM. LEROUX and LABBÉ showed two brothers, aged 13 and 7 years, with this condition.



**Experiments as to the Influence of Heat on Puppies.**—MM. SCHREIBER and DORLENCOURT conducted two series of experiments. In the first the temperature was raised gradually to 104° F.; both suckling and artificially fed puppies were used. In the second the subjects were placed directly in a temperature of 112° F. They found that heat by its direct, exclusive action was capable of producing disturbances in young subjects, and its baneful influence was more marked in proportion to its height. Suckled animals suffered equally with those artificially fed. Humidity of the air seemed to diminish the resistance of the subject. The speakers were able to reproduce a heat-stroke rapidly fatal. In dogs submitted to a temperature above 86° F., fever and restlessness was noticed with dyspnoea and wasting. In the majority of cases digestive disturbances were absent. A prolonged temperature above 86° F. caused arrest of growth; a temperature of 104° F. was rapidly fatal. In artificially fed puppies vomiting and diarrhoea occurred. Treatment by cold baths had an immediately favourable effect.

**Some Peculiarities of Erysipelas in Infants.**—MM. LESNÉ and FRANÇON had noticed in infants attacked with erysipelas a syndrome characterised by vomiting, green diarrhoea with retracted abdomen, erythema, hypothermia and asthenia leading to algid collapse. The only lesion found at the autopsy was hæmorrhage in both suprarenals. This syndrome appeared to exist in other toxic infections at an early age and justified an appropriate opotherapy.

MM. MERIGOT and MESLAY reported a case of cerebral rheumatism with choreic manifestations in a girl, aged 14 years.

M. RENÉ PORAK gave notes of a case of severe diphtheritic paralysis cured by serotherapy.

M. D'ELSNITZ, of Nice, read a paper on "Sterno-vertebral Transonance in Infants and its Value in the Diagnosis of Tracheo-bronchial Adenopathy."

VINCENT DICKINSON.

## Abstracts from Current Literature.

### Medicine.

**The value of urinary examination in infants** (*New York State Journ. of Med.*, 1912, xii, p. 76).—F. V. Bogert thinks that the most satisfactory method of obtaining a specimen of urine from a baby boy is as follows: A heavy test-tube or small wide-mouthed bottle should be applied over the penis and held in position by an adhesive strap button-holed to admit the neck of the bottle or the shoulder of the test-tube; "the upper end of the strap adheres to the skin over the pubis and the lower end is split and attached to either buttock." In girls the same method may be used or a cup placed over the vulva and held in place by a diaper. The author considers that examination of the urine in children is not undertaken sufficiently often, and thereby much valuable information is withheld and many wrong diagnoses made.

F. R. B. ATKINSON.

**Toxicity of urine in measles and other infectious diseases** (*Deut. med. Woch.*, 1912, xxxviii, p. 1733).—**H. Aronson** and **P. Sommerfeld** found that the urine in measles contains a thermostabile dialysable toxin which kills guinea-pigs or rabbits on intra-venous injection, or at least makes them very ill. The injection of 2 c.c. of urine is usually enough to kill the animals with symptoms resembling acute anaphylaxis. The toxicity of the urine bears no relation to the severity of the disease, the date of appearance of the eruption or the diazo-reaction. The duration of the excretion of the toxin varies. Urine from other infectious diseases, e.g. typhoid, tuberculosis, diphtheria, whooping-cough and scarlet fever contains no toxin. On the other hand the urine in serum rashes and some doubtful eruptions (? fourth disease) had the same toxicity as in measles.

J. D. ROLLESTON.

**The excretion of diphtheria bacilli in the urine** (*Deut. med. Woch.*, 1912, xxxviii, p. 1580).—**H. Conradi** and **Bierast** examined the urine of 155 diphtheria patients and found diphtheria bacilli in 54; 32 were from females, 22 from males—36 from children, and 18 from adults; 31 were in the first week of disease, 10 in the second, 5 in the third, and 2 in the fourth. In only a few cases were bacilli present late in convalescence, but in cases which had completely recovered clinically they were found in the ninth week. They were present both in clear and in turbid, in albuminous and non-albuminous, urines. In every case they were very scanty, only a few being found in the sediment of centrifugalised specimens. Their presence was best shown when they were planted out on Loeffler plates. The dissemination of diphtheria by the urine is probably a rare event, but in some cases milk may be so contaminated and give rise to epidemics. The presence of diphtheria bacilli in the urine may also explain the occurrence of cutaneous diphtheria, which has a well-known predilection from the skin of the genito-crural and anal regions. These findings are of theoretical interest in that they show diphtheria to be not merely a local disease, but a general infection with temporary bacteriæmia.

J. D. ROLLESTON.

**Acute nephritis after impetiginous eczema** (*Monatsschr. f. Kinderheilk.*, 1912, x, p. 569).—**R. Halberstadt** describes the case of a girl, aged 10 years, who suffered from hæmorrhagic nephritis after an impetiginous eczema. The nephritis was ushered in with an attack of uræmia. The kidney affection was cured before the eczema had completely vanished.

F. R. B. ATKINSON.

**Case of acute nephritis with aphasia and imbecility** (*Austral. Med. Journ.*, 1912, xxxv, p. 385).—**W. F. Brownell** describes a case of a boy, aged 9 years, suffering from nephritis, the ætiology of which could not be discovered, complicated on the fourteenth day with convulsions and coma, probably due to hæmorrhage or œdema, or both, of the brain, followed by aphasia and imbecility. Gradual improvement occurred until the mental faculties became normal.

F. R. B. ATKINSON.

**Hæmorrhagic nephritis in congenital syphilis** (*Deut. med. Woch.*, 1912, xxxviii, p. 759).—**R. Hahn** records three cases of severe hæmorrhagic nephritis in children aged from 7 days to 3 months in which the clinical diagnosis was confirmed post mortem. In all three cases

cedema was present, which in two affected the legs, and in one the scrotum and abdominal wall as well. In one case there was transient anuria, but uræmia was not observed. In two cases enlargement of the kidneys was detected during life—a finding characteristic of syphilitic nephritis in the adult (Hirsch).  
J. D. ROLLESTON.

**Paroxysmal hæmoglobinuria in children** (*Thèses de Paris*, 1911–12, No. 420).—**M. Rault**.—This condition is uncommon in children, but not remarkably rare, as Comby was able to collect ninety-four such cases in 1904. Hereditary syphilis is the commonest predisposing cause. The symptoms are the same as in the adult, but larval forms, which may be very difficult to distinguish from Raynaud's disease, are relatively more frequent. Rault distinguishes hæmoglobinuria without hæmoglobinæmia of renal or muscular origin from hæmoglobinuria with hæmoglobinæmia due to intra-vascular destruction of the red cells. Paroxysmal hæmoglobinuria is an obstructive affection and shows no tendency to a spontaneous cure. The immediate prognosis is favourable, but the remote prognosis should be guarded owing to the possibility of renal changes, and especially to the debilitating effect of the disease. Treatment of the attack should be rest in bed, and in the intervals specific treatment should be employed. If that fails, antisensibilised serum as recommended by Widal and Rostaine should be given.

J. D. ROLLESTON.

**Polycystic degeneration of the kidneys, especially in children** (*Arch. f. Kinderheilk.*, 1912, LVIII, p. 85).—**W. P. Shukowsky** and **W. Ssinjoff** describe the macroscopic and microscopic appearances of cystic degeneration of both kidneys in a case of a child born at the eighth month, in whom, in addition, atresia of both ends of both ureters was found. They think that the condition in their case is explained on the retention and malformation theories, both of which pathological conditions acted together to produce the appearances found in the kidneys. F. R. B. ATKINSON.

**Echinococcus of the kidney in a child, aged 11 years** (*Gaz. Hebdomadaire des Sci. Méd. de Bordeaux*, 1912, XXXIII, p. 231).—**E. Loumeau** relates the case of a little boy of healthy family and personal history, who was suddenly attacked with severe pain in the left flank; this lasted for a week, and was so severe as to necessitate injection of morphia. During this time the urine was normal, but when the pain ceased he began to evacuate large numbers of hydatid cysts with more or less pain proportionate to the size of the cysts. The kidney, on removal, was found to be riddled with cysts. The boy made a perfect recovery. Apart from the extreme rarity of hydatid of the kidney at this age, it was strange that a kidney so enlarged was not palpable; the writer attributes this to its being absolutely fixed in the loin. The blood showed 92 per cent. hæmoglobin, 4,836,000 red cells, 14,800 white cells, 25 per cent. eosinophiles, and 1.50 per cent. mast cells. The excised kidney weighed 220 grm.; besides the numerous hydatid cysts its substance was crowded with eosinophiles.  
J. PORTER PARKINSON.

**Diabetes mellitus in a child under one year** (*Arch. of Pediat.*, 1911, XXVIII, p. 905, and 1912, XXIX, p. 466).—**P. J. Eaton** and **E. B. Woods** report a case in a breast-fed male infant in whom the disease began at seven months. Urine: specific gravity, 1016–1035, acetone and diacetic acid present. For a time there were thirst and increased diuresis, but these



symptoms soon disappeared. In May, 1912, the child was 24 months old. It was still having an acidosis and eliminating glucose though on a carbohydrate-free diet. At times it had coma, which was relieved by sodium bicarbonate. It had gained in weight and was thriving.

J. D. ROLLESTON.

**Diabetes mellitus following whooping-cough** (*Münch. med. Woch.*, 1912, LIX, p. 1317).—**W. Starck**.—A girl, aged 6 years, about two months after the onset of severe whooping-cough developed excessive thirst, lost flesh, and showed disturbance of the general condition. Urine: 850 c.c. in twenty-four hours. Specific gravity 1039. Sugar 6.9 per cent. Under appropriate diet the sugar disappeared from the urine in eight days, but the child continued to show intolerance for carbohydrates, a slight increase of them in the diet being followed by glycosuria. When seen eighteen months after the onset of the diabetic symptoms the patient was feeling well and attending school regularly. Since the whooping-cough she had had measles and several attacks of sore throat without bad after-effects. Weekly examination of the urine occasionally showed traces of sugar.

J. D. ROLLESTON.

**Diabetes insipidus** (*Osp. d. Bamb. d. Milan.*, 1912, I, p. 45).—**G. B. Grassi**.—A girl, aged 7 years, whose family and personal history was negative, was admitted to hospital for rapid and progressive loss of flesh associated with polyuria and polydipsia of five months' duration. The quantity of fluid ingested and of urine excreted was at first between two and three litres in the twenty-four hours, but in spite of treatment, increased to four, six, ten, and finally fifteen litres in the twenty-four hours. Specific gravity, 1001–1005. No albumin, no sugar. After four months' stay in hospital improvement occurred, and at the end of the fifth month the polyuria and polydipsia disappeared.

J. D. ROLLESTON.

**A case of hydrocephalus with partial anencephaly** (*Paris Méd.*, 1910–11, I, p. 555).—**René Cruchet** describes the above case and also the post-mortem appearances. The latter showed absence of the parietal and temporo-sphenoidal lobe of both hemispheres, and extreme atrophy of the left frontal lobe. The fissure of Sylvius was absent on both sides. The cavity of the ventricles was markedly distended. The corpus callosum was totally atrophied. The child lived to the age of seventeen months.

F. R. B. ATKINSON.

**An avoidable accident during lumbar puncture** (*Journ. Amer. Med. Assoc.*, 1911, LVII, p. 1287).—**Lorenz** experienced the misfortune of the needle breaking beneath the skin while performing lumbar puncture owing to the patient suddenly extending his back. To obviate such an accident occurring again he now employs a contrivance consisting of a light padded stick placed beneath the patient's knees and attached by means of light straps to canvas bands coming over the shoulders and beneath the arm-pits. By drawing up the knees extreme flexion of the spine, which is necessary for the puncture, is obtained, and at the same time sudden extension of the back on the part of the patient is rendered impossible. In the case referred to the broken end of the needle was successfully extracted by means of a skiagraph.

T. R. WHIPHAM.

**Myositis ossificans progressiva** (*Journ. Amer. Med. Assoc.*, 1911, LVII, p. 873).—**Elliott** reports the case of a girl, aged 17 years, with a family history free from syphilis, tubercle and developmental anomalies. At the end of the first year it was noticed that the thumbs and great toes were deformed. Shortly afterwards nodes appeared on the head and disappeared spontaneously; they were tender, but never suppurated. During the next three years similar nodosities appeared on the back and shoulders, and at the age of five there was torticollis for about six months. Subsequently other swellings interfered with the movements of the limbs and about this time signs of a valvular heart lesion were present, although there had been no previous rheumatic or other acute infection. In January, 1907, the patient had typhoid fever, and in July the jaws were so stiff that she was unable to eat solid food, the submaxillary region being filled with a hard bony deposit. Next swellings were observed along both sides of the thorax—hard and circumscribed and apparently not connected with the ribs. These gradually disappeared, and in October the arms became stiff, with partial fibrous ankylosis of the right elbow-joint followed by stiffness in the left shoulder. There was little pain, but the skin over the affected areas had at times been suffused and slightly cedematous. During the progress of the disease there had been periods of arrest and the areas of involvement had disappeared. Repeated involvement of the same muscular area had occurred resulting in final persistent hardness. There had been slight pyrexia at times and frequent epistaxis. The patient was small in stature and the dorsal curve of the spine was increased. Maxillary movement was restricted to about one inch owing to bony induration in the submaxillary tissues. The muscles of the neck presented more or less firm induration. The upper ends of both sternomastoids were of a bony consistency, while the clavicular insertions were firm but not bony. A hard node was felt on the left scapular spine and exostoses were found on the eighth and eleventh right and ninth left ribs and also on the crest of the left ilium. The spine was rigid owing to a broad bony mass on either side in the lower dorsal and lumbar regions. Induration was present in the abdominal muscles in the right inguinal region. The pectoral muscles were hard and contracted, preventing abduction of the arms. The biceps of both arms were indurated and there was no mobility of the shoulder-joints. The right elbow was fixed from muscular changes and the right ulna was 1 in. shorter than the radius, to which it was attached by a bridge of bone. The terminal phalangeal joints of both thumbs were ankylosed. The legs were less affected than the other parts, but there was some restriction of movement in the hips, knees and ankle-joints. Both great toes showed a congenital deformity in the absence of one phalanx. In the heart were signs of aortic stenosis and mitral regurgitation, and the urine contained a minute trace of albumin.

T. R. WHIPHAM.

**Myatonia congenita** (*Amer. Journ. Dis. Child.*, 1911, II, p. 340).—**W. T. Councilman** and **C. Hunter Dunn** report a case of this condition with a full record of the autopsy. Their case in most details is similar to those already reported. They give short abstracts of thirty-six previously recorded cases.

REGINALD MILLER.

**Oppenheim's myatonia** (*Journ. Am. Med. Assoc.*, 1912, LVIII, p. 745).—**I. M. Snow** describes a case in a boy, aged 2 years and 9 months, much improved by strychnine, faradism, massage and resistive exercises.

The disease is characterised by loss of motor functions and marked flaccidity in large groups of muscles. It is usually noticed soon after birth and has never been observed in adults. No patient completely recovers. The arms improve faster than the legs. Neither age nor sex has any influence on the disease. Some, as Oppenheim, consider the disease is not in the nervous centres, but is simply delayed muscular development; others, as Baudoin, that it is a faulty development or degeneration of peripheral nerves, from infection or auto-intoxication of the thymus. Six autopsies are on record. In one there was degeneration of the anterior horn-cells of the cord. In some the cord was normal. The muscles were imperfectly developed. The prognosis is usually good as far as improvement is concerned, but a complete restoration of muscular strength does not occur. The treatment consists in strychnine, electricity, massage and resistive exercises. Griffith's article (*Trn. Am. Ped. Soc.*, 1910, xxii, p. 184) should be consulted by those interested in the disease.

F. R. B. ATKINSON.

**Three cases of pseudo-muscular hypertrophy in one family** (*Ind. Med. Gaz.*, 1911, XLVI, p. 127).—**Lieut.-Col. R. H. Castor** describes three cases, all boys in one family, of this disease. The father's great grandfather suffered from the same affection. The other children, seven in number, were healthy. Poorly developed external genital organs were noticed in all cases, a condition not referred to, as far as one knows, in any text-book.

F. R. B. ATKINSON.

**Progressive family amyotrophy (type, Charcot-Marie)** (*La Pediatria*, 1912, xx, p. 133).—**M. Ponticaccia**.—Father healthy but a drinker, mother prematurely old, both grandparents alcoholic. From five pregnancies four females and two males were born; the latter grew up healthy. All the females at about the third month began to show weakness and progressive wasting, first of the legs, then of the upper limbs; the weakness ended in complete paralysis, and death occurred in the first two, in one by pulmonary embolism at the end of the fourth year, and in the other, suddenly, at the middle of the fourth year. The other two female children, who are twins, aged 18 months at the present time, began to show the same trouble in the limbs at the third month. Motor power is good in the muscles of the head but almost absent in the others; the wasting has been more rapid and more marked in the muscles below the patella. Intelligence normal, reflexes absent, cutaneous sensibility probably intact. Reaction of degeneration doubtful. The author discusses the question as to whether these cases belong to the amyotrophic progressive family type (Charcot-Marie), or to the progressive amyotrophic type (Werdnig-Hoffmann) or to Oppenheim's amyotonia congenita.

VINCENT DICKINSON.

**Myasthenia gravis** (*Journ. Amer. Med. Assoc.*, 1911, i, p. 1555).—**Acker** reports the case of a girl, aged 16 years, who had been perfectly healthy until one night when she went to a dance and rode home several miles in the cold air. From that time diplopia and ptosis of the upper lids developed with difficulty in swallowing and chewing. She was unable to control her movements, especially after any kind of exercise, and had difficult respiration and tachycardia. Speech became affected and the neck muscles were weak, causing the patient to rest her head against something. She was unable to cross her knees and became tired after any small amount



of exercise. Gradually the muscles became stiff and all movements became more difficult. The patient died from dyspnoea and cardiac failure nine months after the onset of the symptoms.

T. R. WHIPHAM.

**Paramyoclonus multiplex epilepticus of Unverricht** ('*Austr. Med. Gaz.*' 1912, xxxi, p. 77).—J. C. Verco describes a case of this disease in two sisters, aged 15 and 21 years. The condition began at the age of ten years in the former case. The jerks were visible in the face and neck, arms and hands and legs. The tongue was also affected and frequently bitten. All the jerks disappeared during sound sleep. General convulsions never occurred except during sleep. The convulsions resembled epilepsy in that they produced unconsciousness, but in other points the condition differed from the latter disease. No clonic spasms followed the tonic spasm, and the face gave the impression that the patient was about to cry. Two years later the condition remained the same.

F. R. B. ATKINSON.

**Late rickets with muscular weakness, obesity and retardation of the generative functions** ('*Gaz. des hôp.*' 1912, lxxxv, p. 27).—V. Hutinel describes the case of a girl, aged 13 years, the offspring of a healthy mother but alcoholic father, born after 8½ months' pregnancy, apparently healthy but very small. The child was breast-fed. At the age of three years the patient suffered for fourteen days from headache and vomiting. At eight and a half the left knee became painful and was treated by plaster immobilisation for genu valgum. The abdomen enlarged, the urine was abundant and thirst was troublesome. At the age of eleven abundant albumen was found in the urine accompanied by general œdema. A year later the patient complained of great fatigue and was unable to stand up. On admission to hospital rickety changes were found in the long bones and their epiphyses; the muscles were small, covered with thick layers of fat, and showed diminished galvanic and faradic excitability. The nails of the fingers and toes were transversely striated and much incurvated. On the head frontal and parietal bosses were noted and the thorax was typically rachitic. The urine was abundant and albuminous, and the impaired secretory power of the kidneys was proved by injection of methylene-blue, urea and salt. Alimentary glycosuria was also produced. The bony deformity, however, was anterior to the renal disorder, and the author therefore denies that the kidneys are the defaulting agents. The bony changes resembled not only rickets but osteomalacia. Other similar cases are quoted associated with diminished menstruation or amenorrhœa and small stature, but without renal disorder. The author considers that this dystrophy resembles that caused by alteration of the glands of internal secretion and particularly the hypophysis, adiposity and decreased genital power being associated with diminished functional powers of the posterior lobe of this organ.

CHRISTOPHER ROLLESTON.

**The mental condition in rickets** ('*School Hygiene*,' 1912, iii, p. 6).—A. Gilmour found that among 6470 children (3401 boys and 3069 girls), rickets occurred in 23.16 and 12.05 per cent. respectively; the younger the age the higher the percentage. The children affected were usually the younger members of large families. He also found that there was a higher percentage of children who were mentally dull among those suffering from rickets, and that this dulness existed in the case of children in whom no hereditary taint or evidence of neglect of malnutrition could be found. The

author considers that the brain is more affected in some cases than in others. The impairment is not usually permanent, but improves as the physical condition improves. It is liable, however, to become permanent, even when there is an improvement in the physical condition in children in whom the family history is bad.

F. R. B. ATKINSON.

**Dementia præcox in childhood** ('*Arch. de méd. des enf.*,' 1912, xv, p. 169).—P. Haushalter divides dementia præcox into—(a) simple dementia, in which progressive weakness of the mental faculties occurs without any marked explosive symptoms, as delirium or katatonia. (b) Katatonic dementia, characterised by conditions of stupor and excitement; in the stuporous state the patient always adopts the same position, although efforts are made by others to change it (*stéréotypie akinétique*); in other cases the patients incessantly reproduce certain automatic movements (*stéréotypie parakinétique*). (c) Hebephrenic form, which includes states of depression and excitement, characterised by delirium. The author quotes two cases, one of simple dementia præcox, and one of the *stéréotypie parakinétique* variety of the katatonic form.

F. R. B. ATKINSON.

**Syphilis and amentia** ('*Cleveland Med. Journ.*,' 1912, x, p. 251).—W. C. Stoner and E. L. Keiser report on 1050 unselected cases of all grades of mental deficiency in the Ohio Institution for Feeble-minded on whom they employed Wassermann's reaction. The patients' ages ranged from six years to over sixty. The original Wassermann technique was used with an anti-ox amboceptor in the greater part of the observations. Eighty-three cases, or 7.9 per cent., were positive. Only 14.4 per cent. of the positive cases showed clinical signs of inherited syphilis. Although congenital syphilitics lose their antibody content with age, a number of positive cases were found past middle age, including one aged sixty-one years. The percentage of positive results in the various forms of mental defect are as follows: Mongolian, 17.8; microcephalic, 11.0; macrocephalic, 21.3; paralytic, 23.0; deaf, 7.6; blind, 0; epileptic, 2.2 (cf. BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, viii, p. 284, and 1912, ix, p. 46).

J. D. ROLLESTON.

## Surgery.

**Three cases of hare-lip and cleft palate in one family** ('*New York Med. Journ.*,' 1912, i, p. 176).—A. T. Hawes.—A woman gave birth to a girl with hare-lip and cleft palate who died when two weeks old shortly after an operation to remedy the deformity. The mother afterwards gave birth to two normal children, a boy and a girl, and then to twins, with separate placentas, each having a hare-lip and cleft palate. Both died suddenly about the fourteenth day within two hours of each other. There was no evidence of syphilis in the parents.

J. D. ROLLESTON.

**The cleft palate controversy** ('*Practitioner*,' 1911, lxxxvii, p. 317).—F. W. Goyder considers the arguments for and against the median operation between one and three years as opposed to the flap operation, and finds that the median operation is to be preferred at this age.

F. R. B. ATKINSON.

**Hypertrophic pyloric stenosis, successfully operated on by a new method** (*Austral. Med. Journ.*, 1912, xli, p. 456).—**W. H. Brown** describes this case in a child a month old. The operation consisted in a vertical incision through the upper half of the right rectus, a longitudinal incision through the peritoneum, and then division and dissection away of the thick overgrown muscle of the pyloric sphincter. The peritoneal cut was then stitched up transversely and the abdomen closed with through-and-through stitches.

F. R. B. ATKINSON.

**Multiple diverticula of ileum** (*Journ. Amer. Med. Assoc.*, 1912, lviii, p. 1190).—A girl, aged 11 years, suffering from typhoid fever presented symptoms of appendicitis with threatening perforation. On laparotomy the appendix was found to be gangrenous at its base and firmly adherent to the under surface of the ileum, and to one larger and one small diverticulum of the ileum. A third diverticulum was close to the lip of the appendix, but not adherent to it. The larger diverticulum was filled with a faecal mass. The appendix was removed, the small diverticulum was pursued into the bowel and the other two were removed, inverted and sutured over as in an enterostomy. Complete recovery took place.

J. D. ROLLESTON.

**A case of intussusception in an infant; resection and recovery** (*Med. Press. and Circ.*, 1912, ii, p. 8).—**H. F. Woolfenden** describes this case in a child aged 3 months. The intussusception was of the ileo-cæcal type. Six inches of large intestine were removed: no gangrene was present, and the irreducibility seems to have been due to the œdema present.

F. R. B. ATKINSON.

**Appendicitis in children** (*Am. Journ. Dis. Child.*, 1912, iv, p. 97).—**R. S. Fowler** considers the symptoms, diagnosis and treatment of this condition, and gives statistics of 183 patients with appendicitis under twelve years of age met with in the German Hospital of Brooklyn from the years 1900-1912. The total number of cases during the same period was 1115; the proportion of children (183) was therefore 16.41 per cent. Three of the patients died in hospital, one patient months later following resection of the intestine. The youngest patient was two years and nine months old, the oldest twelve years. Of the last 100 cases 63 were males, 37 females.

F. R. B. ATKINSON.

**Appendicitis in children** (*Med. Press.*, 1912, i, p. 664).—**H. A. T. Fairbank** discusses the anatomical peculiarities of the appendix in children, the symptoms and diagnosis, drawing attention to the vagueness of the former. He considers that only two means of producing anæsthesia in these cases should be employed, viz. spinal anæsthesia by stovain (the better), and ether by ordinary inhalation anæsthesia. He states that chloroform is dangerous.

F. R. B. ATKINSON.

**Appendicitis in childhood** (*Arch. of Pediat.*, 1912, xxix, p. 366).—**E. Marvell**.—Appendicitis is a more common disease of childhood than is generally understood. Its frequency, baneful consequences, and comparative certainty of correction when early recognised requires closer examination than is usually accorded it to determine its existence. The only sure eradication is early removal of the appendix.

F. R. B. ATKINSON.



**Appendicitis in children** ('*Austral. Med. Gaz.*,' 1912, xxxi, p. 519).—**R. B. Wade** considers that the very mild attacks are often overlooked, and the disease is more common in children than is generally supposed, but is not so common as in adults; its frequency grows with the increasing years. Concealed peritonitis cases are common in children. If a mass is felt in a young child under seven, in nearly every case it will contain pus; all definite attacks should be operated upon at once, and in mild cases immediate or late operation is advisable.

F. R. B. ATKINSON.

**Oxyuris appendicitis** ('*Med. Record*,' 1911, i, p. 1162).—**R. L. Cecil** and **K. Bulkley**.—The paper is based on the study of 112 cases of appendicitis in children, with a control series of thirty-five autopsy and other appendices. Eight per cent. of the autopsy appendices showed oxyuris, and nearly 17 per cent. of cases of appendicitis in children contained either oxyuris or trichocephalus. The typical oxyuris appendix is swollen and rigid, but the serosa is smooth, pale and glistening. The lumen is filled with bloody mucus, and minute ecchymoses or hæmorrhagic ulcers may be seen on the mucosa. Sometimes the oxyuris is firmly attached to the mucous membrane, or may be seen burrowing beneath it. Occasionally it is completely enclosed in a fibrous capsule. The writers' statistics show that oxyuris or trichocephalus were responsible in New York for one out of five or six cases of appendicitis in children between two and fifteen years of age.

J. D. ROLLESTON.

**A critical study of oxyuris and trichocephalus appendicitis** ('*Amer. Journ. Med. Sci.*,' 1912, i, p. 793).—**R. L. Cecil** and **K. Bulkley** analyse seventy-two cases of this condition. A little over 50 per cent. occurred between the ages of six and fifteen. The youngest case was aged 21 months and the oldest 54 years. It is twice as common in the female. Eighty-four per cent. showed the oxyuris. The number of the parasites varied from 1 to 150, the average being about 11. In 86 per cent. the appendicitis was of a catarrhal or non-suppurative type, in ten of the gangrenous form. *Symptoms*: The pain is frequently described as a gnawing, scratching, itching sensation in the right lower quadrant of the abdomen, and is frequently out of all proportion to the objective symptoms. True rigidity is often absent. The general constitutional reaction is slight. The authors consider these signs important in the differential diagnosis between this form of the disease and that arising from other causes. Their conclusions are: (1) There is a definite and characteristic form of appendicitis caused by these worms. (2) It is comparatively common, constituting 15 per cent. of the cases considered by the authors. (3) The typical pathological changes consist of a catarrhal type of inflammation, and punctures and ulceration of the mucosa of the appendix by the parasite. (4) In some cases the parasites or their ova may be demonstrated in the fæces. The clinical picture is dominated by the exaggeration of subjective and lack of objective signs. (5) The ideal treatment is appendectomy.

F. R. B. ATKINSON.

**Pneumococcal peritonitis in children** ('*Practitioner*,' 1912, lxxxviii, p. 557).—**S. Barling** has met with 3 cases of pneumococcal peritonitis in children under the age of 12 out of 27 laparotomies, and founds his remarks on 28 cases met with in the last four years at various hospitals in Birmingham, and 206 cases from the literature. Of the 234 cases 62, or 27 per cent., were males, and 172, or 73 per cent., females. The organism may reach the peritoneal cavity

through the vagina, Fallopian tubes, intestine, vascular system, or lymphatics of the diaphragm. *Pathological anatomy*: The bowel is inflamed and distended, and the peritoneal cavity contains sero-fibrinous purulent exudate. The liver, spleen and kidney may show signs of fatty changes, or cloudy swelling. *The clinical types* are of three kinds: (a) Very acute cases, with marked abdominal features from the first and no lesion in the lungs. (b) Pneumonia develops almost simultaneously with the peritonitis. (c) Chronic cases. Pneumonia has existed for some weeks and is followed by signs of fluid in the abdomen. *Diagnosis*: Pain, diarrhoea, vomiting with rigidity of the abdominal walls are suspicious signs, especially if associated with initial diarrhoea, and if pneumonia is present, as is frequently the case, the probability is that the case is one of pneumococcal peritonitis. *Prognosis*: Of the author's collection of cases 79 per cent. died. The best prognosis exists in the cases in which only the peritoneum is attacked; four out of seven cases of this kind recovered, in all of which operation was performed. *Treatment*: Laparotomy and drainage give the best chance of success. Vaccines have not been very successful.

F. R. B. ATKINSON.

**Intestinal stasis in children and its surgical treatment** (*'Practitioner,'* 1912, LXXXVIII, p. 570).—L. E. B. Ward sums up his conclusions as follows: Intestinal stasis, exactly comparable to that found in the adult, may occur in the child. When associated with certain diseases, as tubercular joint disease, rheumatoid arthritis, and ulcerative colitis, these latter may be much improved or even cured by ileo-colostomy, which also cures the stasis. The cure of the latter is also followed by relief of the child's symptoms, both local and general.

F. R. B. ATKINSON.

**Megalocolon congenitum** (*'Med. Record,'* 1911, II, p. 1164).—Herman B. Sheffield points out that the classical form of this disease is that which is manifested immediately after birth by constipation, meteorism and retention in the colon of comparatively large quantities of fluid injected for the purpose of emptying the bowel. Since Hirschsprung's original description in 1880, there was a growing tendency to include also cases developing several weeks or months later, if they were traceable to some congenital intestinal anomaly. He records a case belonging to the latter category. Constipation and meteorism began at six months and increased. After administering an active cathartic, the stools would be found to be mixed with large quantities of mucus, in the form of irregular pieces of membrane, and sometimes also with blood. Enormous distension of the abdomen developed, and the child steadily became worse. Ultimately the abdomen was opened and an abrupt contraction found in the sigmoid flexure, below a greatly distended descending colon. No remedial operation was attempted and the child died next day.

FREDERICK LANGMEAD.

**A case of Hirschsprung's disease** (*'Rev. d'hyg. et de méd. inf.,'* 1911, xv, p. 410).—A. Fritz describes a case of this disease in a boy, aged 8 years, who died after operation for extirpation of the dilated colon. There are two groups of cases of this disease; the first shows itself in the first days of life, the second after the first year or later. The symptom first noticed is obstinate constipation, followed by great enlargement of the abdomen. Bing calls the first group acute and the second chronic, in which latter ulceration and perforation of the intestine frequently occur. The author's case belonged to the second class and showed these changes on autopsy.

*Ætiology:* Hirschsprung looks on the disease as an anomaly of development, evoking dilatation and hypertrophy of the colon, and secondarily constipation. Marfan regards the hypertrophy and dilatation as secondary, and as a result of the twisting of the sigmoid colon constipation arises. Bing thinks the disease is due to faulty innervation, which renders the normally developed muscular tissue lax and hence the wall dilates. The disease is more frequent in boys than girls. Of Hirschsprung's seventeen cases, fifteen were boys. Treatment consists in lavage of the bowel, purgatives, massage and faradisation of the abdominal wall. If these are ineffectual, removal of the colon has been undertaken, but the number of successes is small.

F. R. B. ATKINSON.

**Congenital ano-rectal deformities** (*'Siglo Med.,'* 1912, LIX, pp. 2, 51, 82).—**Arquellada** discusses the classification, ætiology, diagnosis, pathology and treatment of these deformities. He considers the prognosis favourable if there is early surgical intervention in cases of stricture and imperforate anus (without other congenital deformities). In absence of the rectum where an artificial opening in the iliac region must be made the prognosis is more serious. The outlook depends upon the organ or place of the opening. As a rule it is more serious when the internal fistula opens into the urinary tract than when it opens into the genital organs. The operations are described and illustrated in the final article.

M. D. EDER.

**Atresia ani et recti** (*'Med. Record,'* 1911, II, p. 1165).—**Herman B. Sheffield** records a case of a first child, born at full term. The head was soft and deformed, the ears turned inwards and hanging loosely. The forearms were contracted, the legs short and sharply curved inward, and the feet in the position of talipes varus. The scrotum and its contents were absent, and the penis was represented by a flat imperforate piece of skin. There was no anus. The intestines terminated at the left iliac fossa in a blind pouch filled with meconium. The kidneys and bladder were rudimentary. A second child of the same mother shows slight deformities of the ears and fingers.

FREDERICK LANGMEAD.

**Cæcum and appendix in left inguinal hernia** (*'Indian Med. Gaz.,'* 1912, XLVII, p. 224).—**F. F. Strother Smith** records a case in a male child, aged 1½ years. On opening the sac he found in it the appendix lying in front of the cæcum. The contents of the sac were reduced, the sac pulled down, ligatured at its neck and pushed well back into the abdomen. The canal was closed in the ordinary way.

J. D. ROLLESTON.

**Epigastric hernia in children** (*'Arch. f. Kinderheilk.,'* 1912, LVIII, p. 8).—**A. Brandeinberg** finds that paroxysmal attacks of pain in the lower part of the abdomen directly after meals, especially breakfast, are characteristic of this condition. He recommends plaster with an india-rubber pad, and if this does not suffice, operation by paraffin injections or by radical cure.

F. R. B. ATKINSON.

**Torsion of uterine annexa in the hernias of nurslings** (*'New York Med. Journ.,'* 1912, I, p. 693).—**A. V. Moschowitz** divides the forty cases described in the literature into—(1) those in which a torsion of the pedicle has been noted—twenty-six cases, including one personal; (2) those in which no torsion was present—four cases; (3) those in which a torsion of the



pedicle has not been noted—ten cases, one personal. Three of the forty cases were older than one year. Nineteen occurred on the left side and twenty on the right; in one the side was not stated.

F. R. B. ATKINSON.

**Thoracoplasty for chronic empyema** (*'Practitioner,'* 1912, LXXXVIII, p. 751).—**J. R. Kerr** describes two cases in girls, aged 17 and 7 years respectively, in both of whom removal of several ribs was undertaken for an unhealed sinus extending into a cavity. The first case ended fatally on the tenth day from broncho-pneumonia, but the second made a good recovery.

F. R. B. ATKINSON.

**Rupture of the kidney in children** (*'Am. Journ. Med. Sci.,'* 1912, CXLIII, p. 649).—**C. L. Gibson** finds reports of only twenty-two cases of this condition, and describes four others in a girl aged 10 years, a boy about 10 years, a boy aged 12 years, and a girl aged 8 years, all of which recovered after nephrectomy. He divides the cases as far as treatment is concerned into (1) those suitable for expectant treatment—(a) milder forms of the injury; (b) cases in which it is thought both kidneys are injured; (c) cases in which such grave injuries had occurred in other parts of the body that operation would be futile. (2) Cases demanding operation: (a) All cases showing progressive hæmorrhage; (b) long-continued hæmaturia; (c) anuria lasting longer than thirty-six or at the most forty-eight hours; (d) cases in which there is evidence of intra- or peri-renal suppuration or peritoneal infection.

F. R. B. ATKINSON.

**Death from renal adeno-sarcoma** (*'Med. Record,'* 1912, 1, p. 844).—**V. C. Pedersen** concludes the history of this case published in the *Med. Record*, 1911, II, p. 417. For a short time after the operation the patient did well; at the end of three months, however, ascites and signs of venous obstruction of the lower extremities occurred, and emaciation rapidly resulted. A radiograph showed relapse of the tumour on the left side and death occurred six months after the operation. Microscopic examination revealed two kinds of tissue: a spindle-celled sarcoma of the small-celled variety with numerous cysts and a large amount of spindle-celled stroma in which were found glandular tubules; the connective tissue in other places was grouped in smaller and larger alveoli or were solid nests around the glandular elements. This is the mixed form of tumour described by Wilms, and not uncommon in the kidney.

F. R. B. ATKINSON.

**Vesical calculus in a boy, aged 5 years** (*'Amer. Journ. Obst.,'* 1912, LXV, p. 358).—**A. D. Smith** describes the above case, remarkable for the size of the stone and age of the patient. The stone measured  $1\frac{3}{8}$  in. by  $1\frac{1}{8}$  in. by  $\frac{3}{4}$  in. and weighed  $\frac{3}{4}$  oz. It was successfully removed by operation.

F. R. B. ATKINSON.

**Congenital obstruction of posterior urethra** (*'Am. Journ. Dis. Child.,'* 1912, IV, p. 137).—**J. H. Mason Knox** and **T. P. Sprunt** record a case in a boy, aged 5 years, who had had difficulty in controlling micturition since infancy. Urine was passed every half hour day and night without pain. Five weeks before death he was taken suddenly ill with cough, abdominal pain, vomiting, and constipation. There was no fever. Death was preceded by symptoms of uræmia. Post mortem, an obstruction was

found in the prostatic portion of the urethra, which was converted into a blind pouch by fusion of the anterior and posterior walls, due apparently to over-development of folds normally present immediately distal to the verumontanum. A triangular opening whose sides measured 3 mm. in the floor of the pouch was the only communication with the anterior urethra. The bladder was markedly hypertrophied and dilated, the ureters were very tortuous and greatly enlarged, and the kidneys showed typical hydronephrosis. No other anomaly was found except an adenoma of the right adrenal.

J. D. ROLLESTON.

**Toxic symptoms following the use of tincture of iodine as a skin disinfectant in children** (*Gaz. hebdomadaire de médecine et de chirurgie*, 1912, xxxiii, p. 235).—**Codet-Boisse** records two cases, one in a girl, aged 7 years, operated on for inguinal hernia, the other in a boy, aged 15 years, operated on for appendicitis. In both cases the skin of the abdomen and operation wounds were painted with the tincture of iodine of the French codex. The same symptoms occurred in both cases within twenty-four hours, viz. rise of temperature, a generalised erythema without sore throat, followed by desquamation and suppuration of the wounds. The writer excludes the possibility of scarlatina or infection of the wounds, and attributes the symptoms to a special idiosyncrasy for iodine.

J. D. ROLLESTON.

### Pathology.

**The ætiology of scarlet fever** (*Presse médicale*, 1912, xx, p. 701).—**C. Levaditi** reviews the recent work by Cantacuzène (*British Journal of Children's Diseases*, 1911, viii, p. 230), Bernhardt and others, and describes the experiments made by himself with Landsteiner and Prasek in Vienna and at the Pasteur Institute in Paris on five chimpanzees and one orang-outang. They found that swabbing the throat with deposit from the tonsils in the acute stage of scarlet fever produced in each case an angina similar to that of scarlatina. Inflammation of the tonsils, pillars and pharynx appeared after an incubation of two to three days. The angina was usually accompanied by fever and often by diarrhoea, and subsided in five or six days. Two chimpanzees, who had had a subcutaneous injection of blood and a glandular emulsion from a scarlet fever patient, in addition to the angina presented an intense general infection which proved fatal. In one chimpanzee the infection was accompanied by a generalised eruption resembling that of scarlet fever, in another the eruption was localised to the inoculation site. Typical scarlatinal desquamation was observed in the orang-outang only, following a mild angina and a discrete erythema of the thorax and abdomen. These experiments show that the anthropoid apes are more susceptible to the scarlatinal virus than the lower apes. The virus, the nature of which is still unknown, appears to exist in the tonsillar and lingual deposit, the blood and lymph-glands, and perhaps the pericardial fluid.

J. D. ROLLESTON.

**Leucocyte inclusion bodies in scarlet fever** (*Centralblatt für Bakteriologie*, 1911, Orig. Lxi, p. 63).—**Döhle**, in the examination of blood-films from about thirty scarlet fever patients, found almost invariably some bodies enclosed in the polymorphonuclear leucocytes, and situated in the unstained

and faintly stained portions of the protoplasm. The number of leucocytes showing these bodies varied, as did also the number of bodies in each cell. As a rule they were only one or two, but sometimes there might be as many as six. In shape they were round or oval or bacillus-like, pointed at both ends, or curved or pyriform. In a few cases they were extra-cellular. The inclusion bodies were most likely to be found in the blood shortly after the appearance of the eruption. Döhle examined the blood in numerous other diseases, but in only three cases, one of pneumonia and two of cancer, could he find similar bodies.

J. D. ROLLESTON.

**Inclusion bodies in the blood in scarlet fever** (*Arch. of Ped.*, 1912, xxix, p. 350).—M. Nicoll, jun., and A. W. Williams examined blood-smears from fifty-one cases of scarlet fever, and found inclusion bodies in forty-five. The negative cases had been ill eight days or more, while the great majority of the positive cases had been ill less than a week, and most of them for less than four days. These bodies were found chiefly in the polymorphonuclears, and varied in size from a small coccus to irregular masses one fifth the size of a red corpuscle. Bacillary forms were also seen. Of 25 control cases, including 12 of measles, 3 of diphtheria, 3 of rubella, and 3 normal bloods, only 3 showed these bodies, viz. a case of pneumonia in a luetic woman, a case of erysipelas in an infant, and a complicated case of measles. The writers conclude that examination of the blood in the first week will serve to differentiate scarlet fever from measles, German measles, and probably toxic eruptions.

J. D. ROLLESTON.

**Inclusion bodies in scarlet-fever blood as a means of differential diagnosis** (*Arch. of Ped.*, 1912, xxix, p. 416).—M. Nicoll, jun., examined the blood of 115 scarlet fever cases, including all types of the disease. Most of the patients had been ill from one to seven days. The inclusion bodies were present in all but sixteen, most of whom had been ill from seven to twenty-eight days. Among about 80 controls examined, 8 cases of erysipelas, 7 of sepsis, mostly puerperal, 4 of typhus, and 1 of empyema were positive, and 23 of measles, 17 of German measles, 12 of serum rashes of various types, 3 of diphtheria, and 3 of follicular tonsillitis were negative. Manson's stain (borax-methyl blue) showed the inclusion bodies best.

J. D. ROLLESTON.

**Diagnostic value of leucocyte inclusion bodies in scarlet fever** (*Berl. klin. Woch.*, 1912, xlix, p. 499).—M. Kretschmer examined blood-films of about thirty cases in the Strasburg Children's Clinique and invariably found one to six inclusion bodies present in the great majority of the polymorphonuclears. In one case they were seen before the appearance of the eruption. They were found up to the fourth day and very gradually disappeared, but in some cases they were still present on the fourteenth and fifteenth days, and in one on the twenty-eighth day. Of about 70 control cases examined, including 20 normal cases, 8 of measles, 6 of diphtheria, 9 of tuberculosis, 6 of carcinoma and 6 of syphilis, only 4 showed inclusion bodies, viz. 1 of pneumonia with cervical abscess, 2 of diphtheria with streptococcal empyema, and 1 of tuberculosis. Guinea-pigs, rabbits, white mice and apes, whether inoculated or not from scarlatinal patients, did not show the bodies.

J. D. ROLLESTON.



**The diagnostic significance of leucocyte inclusions in scarlet fever** (*Berl. klin. Woch.*, 1912, XLIX, p. 1232).—**I. Ahmed** found inclusion bodies present in scarlet fever patients examined between the third and tenth days of disease and absent in eighteenth and twenty-first day cases. He found them present also in other febrile diseases, viz. pulmonary tuberculosis, typhoid fever, measles, German measles and erysipelas. Ahmed regards them as fragments of the nucleus and denies them any diagnostic importance.

J. D. ROLLESTON.

**Leucocytic inclusion bodies, with special reference to scarlet fever** (*Am. Journ. Dis. Child.*, 1912, IV, p. 1).—**J. A. Kolmer** examined blood smears in 216 scarlet fever patients, and found the inclusion bodies present in 94 per cent. during the first three days of the disease. Subsequently they diminished, and were generally absent by the ninth day. Of fifty cases of diphtheria the bodies were found in 42 per cent. during the first three days of the disease. Subsequently they were but seldom found. The inclusion bodies were also found in seven out of eleven cases of erysipelas, in a case of streptococcus empyema, and one of puerperal sepsis. A relation between the bodies and streptococcus infections was thus strongly indicated. The bodies were not found in measles, rubella, or gastro-intestinal rashes. Of forty-four cases of serum disease the bodies were only found in some of those presenting a scarlatiniform rash. Kolmer concludes that the absence of these bodies in serum disease excludes scarlet fever with a fair degree of certainty, but that their presence may be due, not to scarlet fever, but to the primary attack of diphtheria.

J. D. ROLLESTON.

**Recent advances in our knowledge of measles** (*Am. Journ. Dis. Child.*, 1912, IV, p. 20).—**J. F. Anderson** and **J. Goldberger** refer to their recent experimental work on monkeys (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, p. 35), which they successfully inoculated with measles. Their further experiments showed that the nasal and buccal secretions in uncomplicated cases of measles may be at times, but not always, infective for the monkey, and that the positive results are obtained only twenty-four or forty-eight hours after the appearance of the eruption. Experiments to determine the infectivity of the scales collected from human cases of measles from the fourth to seventh day after the first appearance of the eruption yielded entirely negative results. Many cultures were made with measles blood known to be infective by monkey inoculations, but in no case was any growth obtained that appeared to have any ætiological relation to the disease.

J. D. ROLLESTON.

**The blood and hæmopoietic organs in heredo-syphilis** (*Thèses de Paris*, 1911-12, No. 454).—**J. Sevestre**.—All heredo-syphilitic infants show some modification of the blood formula. All the different types of anæmia may be met with, varying from simple anæmia to pseudo-leukæmia, infantile anæmia, and even leukæmia. In other cases there is an increase in the number of red cells. In cases where the number of red cells is only slightly diminished there is usually a diminution of hæmoglobin, while in cases where the red cells are much diminished there is generally an increase in the hæmoglobin. This increase in the hæmoglobin is one of the most constant features of the anæmias of heredo-syphilis. In every case are to be found deformities of the cells, dyschromatophilia and anisocytosis. Micro-

cytes, as a rule, are present, more rarely megalocytes. The number of white cells is usually increased, but may be normal, but in either case there is an increase in the number of the mononuclears. Nucleated red cells and myelocytes are practically constant in the blood in heredo-syphilis. Histological lesions are invariably met with in the hæmatopoietic organs. In the spleen and bone-marrow there is an intense myeloid reaction, which is frequently associated with sclerosis in the case of the spleen. The *Spirochaeta pallida* may be found in both, but in small numbers only in the bone-marrow. As the result of specific treatment the number of red and white cells and the hæmoglobin return to normal, and the nucleated red cells and myelocytes disappear, but the leucocytic formula characterised by the predominance of mononuclears remains the same. The thesis contains the histories of thirty-eight cases, eighteen of which are original, in infants aged from twelve days to two years.

J. D. ROLLESTON.

**The pyrogenetic action of lactose** (*Am. Journ. Obst.*, 1912, LXV, p. 373).—F. W. Schlutz records some experiments which were carried out on rabbits. Lactose was given intra-venously (alone, or combined with physiological salt solution or Ringer's solution), subcutaneously, and by the mouth. When administered by the mouth it was also given either alone or in conjunction with physiological saline or Ringer's solution. Intestinal disturbance was then produced in the rabbits by feeding them with  $\beta$ -oxybutyric acid and croton oil. The results warranted the conclusion that—(1) lactose, if given intra-venously, subcutaneously, or orally, possesses no distinct pyrogenetic effect; (2) it does possess a definite though not pronounced influence on the temperature if it is given subcutaneously or orally in a diseased intestinal tract in combination with a medium containing a sodium salt such as physiological saline or Ringer's solution. The results, though definite, were hardly so pronounced as would be expected from the effect produced clinically by the administration of lactose in similar conditions, and were far from explaining the pathogenesis of the fever occurring in alimentary intoxication.

FREDERICK LANGMEAD.

**The pathology of subacute and chronic mucous entero-colitis** (*Riv. di clin. Pediat.*, 1912, x, p. 81).—A. Creazzo.—Many factors enter into the pathology of this affection. Nervous change and psychic deficiency is one of the conditions which predispose to the action of infective germs. These forms of mucous entero-colitis are contagious. Clinically the disease presents no striking difference with respect to the age of the subject. Diarrhoea is always present, and a general condition of intoxication and cachexia which frequently leads to marasmus. Fever is a secondary phenomenon which may be absent. The small and large intestines contain an abundant mucous fluid of a yellowish colour. The mucosa of the first half of the small intestine is usually thickened, œdematous, rarely atrophied, and the glands undergo a process of hypersecretion of mucus. In the second half, especially in the lower third, the mucosa is usually atrophied, the glands being affected as much as the villi; the muscular coat is always atrophied and sometimes the submucous. In the large intestine in some cases there are zones of atrophy, especially in the cæcum and transverse colon; the mucosa is more or less atrophied, frequently the glands; the muscular coat is rarely atrophied. There are tracts in which the coats are thickened and infiltrated—a condition which in some cases amounts almost to a kind of sigmoiditis or proctitis. There are thus hyperplastic and atrophic forms of colitis.

Ulceration is frequent in the large but very rare in the small intestine, while swelling of the lymphatic follicles is general. The stomach and duodenum participate more or less in the process, and there are frequently fatty changes in the liver, slight sclerosis in the pancreas, and changes in the renal epithelium. The spleen is never enlarged.

VINCENT DICKINSON.

**Pathology of chorea** ('*New York Med. Journ.*,' 1912, II, p. 323).—**Francis A. Hulst** regards chorea as divisible into two groups, one due to a definite cerebral lesion or irritant, and the other to irritation elsewhere in the body, giving rise to reflex disturbances in the neuro-muscular mechanism. The first group he attributes to an infectious cause, and thinks that in many of the second group the nervous system has been weakened by some insidious toxæmia.

REGINALD MILLER.

**Tuberculous meningitis: a pathologic report of nine cases** ('*Journ. Amer. Med. Assoc.*,' 1912, LIX, p. 165).—**J. H. W. Rhein**.—Blood-vessel changes were present in all cases. Cortical changes were present in all the cases and marked encephalitis in three. The duration of the disease has little if any bearing on the character of the exudate. The changes in the blood-vessels consisted of thickening of the arterial walls and some veins. Perivascular round-cell infiltration was quite common. Distension of the perivascular spaces was noted in seven of the cases. In three cases there was round-cell infiltration of the superficial layer of the cortex, and in another capillary hæmorrhage was present. No plasma-cells were found in three cases.

F. R. B. ATKINSON.

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## Reviews.

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CLINICAL METHODS: A GUIDE TO THE PRACTICAL STUDY OF MEDICINE.  
By ROBERT HUTCHISON, M.D., F.R.C.P., and HARRY RAINY, M.D.,  
F.R.C.P. Edin., F.R.S.E. Fifth edition. Revised throughout. London:  
Cassell & Co., 1912. Price 10s. 6d.

THE last edition of this well-known manual appeared in 1908, since when numerous developments in almost every department of clinical medicine have rendered a new edition imperative. By judicious selection and elimination the authors have succeeded in bringing the work up to date without materially adding to its bulk. Some portions of the book have required little, if any, change. Thus, in the admirable chapter on the clinical examination of children, except for a description of Koplik's spots it has not been necessary to make any addition since the original edition in 1897. Among the new features in the present edition are a description of recent sphygmomanometers and several new urine tests and a clear account of the various sensory impulses and their course in the cord and brain. The additions to the chapter on clinical bacteriology include notes on the examination of the cerebro-spinal fluid, von Pirquet's reaction, typhoid carriers, paratyphoid bacilli, the *Spirochæta pallida* and Wassermann's reaction. No mention,



however, is made of Vincent's organisms, and Pugh's toluidin blue stain for diphtheria bacilli deserves to find a place in the next edition.

Several new diagrams have been added, and the chapter on the examination of the blood contains some excellent new plates illustrating Leishman's stain.  
J. D. R.

UEBER SAUGLINGSERNÄHRUNG. VON DR. ERNST SCHLOSS. Mit 59 Kurven im Text und auf 3 Tafeln. Berlin: Verlag von S. Karger, 1912. Price 6 M.

IN this book Dr. Ernst Schloss, of Berlin, has attempted a double task, first to describe the results which he has achieved in feeding infants, both the healthy and those who already suffer from digestive disorders, with a specially modified milk mixture; and, secondly, to place before the reader, in small compass, a historical review of the whole science and art of the artificial feeding of infants. We are not sure that these two objects are truly incompatible. The historical part of the book, at least, is likely to suffer, because each previous advance and discovery is apt either to be hailed with favour as prelude to the new method now advocated by its author, or to be deplored as a retrograde step and a backsliding from the paths of true progress. Thus the author is induced to regard the progress of our knowledge of infant feeding as culminating in the well-known experiments of Ludwig Meyer, which seemed to show that the symptoms of many dyspepsias in infants were dependent upon the abnormal proportions of the saline constituents of the whey, while the other substances in the milk, fats, proteids and carbohydrates, were quite innocuous. The remainder of the book is in great part concerned with the results of the author's modification of the whey, in such manner as to make it resemble the whey of human milk as closely as possible in respect of its saline constituents. The closest approximation to human milk is obtained by a mixture for each litre of milk  $\frac{1}{3}$ , 20 per cent. cream  $\frac{1}{3}$ , water  $\frac{5}{7}$ , to which is added 50 to 70 gm. of malted sugar, 5 gm. nutrose or plasmon, and .2 gm. KCl. The favourable results of this mixture are shown by numerous charts and diagrams. The book, although perhaps it suffers from the drawbacks which have been mentioned, is one of intense interest, and is written by one who is not only familiar with the huge literature of the subject, but who has had for many years a wide experience of the subjects of which he treats.  
H. C. C.

TECHNIQUE CHIRURGICALE INFANTILE: INDICATIONS OPERATOIRES. OPERATIONS COURANTES. Par le Dr. L. OMBREDANNE. Paris: Masson et Cie., 1912. Price 7 frcs.

THE object of this book is to review the advances in the technique of operations upon infants and children, and to point out those special points in which the technique differs from the usual practice of general surgery. The work is based on the practice of the Hôpital Bretonneau.

In discussing anæsthesia, the author advises ether for children over four years of age and chloroform for younger children; but he brings forward no serious reasons why the younger children should not also have the benefit of the safer anæsthetic, while he seems to have come to the same conclusion as most English surgeons, namely, that the liability to pneumonia or bronchitis after the operation is no greater with ether than with chloroform.

The subject of operation on the mastoid antrum and ear is well dealt with, and the operations are fairly fully described; but the rather important subject of glands in the neck is dismissed in three pages.

An excellent description of the operation for hernia in infants is given, but it strikes us that some of the operations described are rather unnecessarily complicated by too much suturing of the deep tissues. In operating for intussusception the author advises stitching the cæcum and terminal portion of the ileum to the abdominal parietes to prevent recurrence, and this we think is good when time allows of its being carried into execution without increasing the immediate risks of the operation.

There are two very good chapters on the operation for undescended testicle and hypospadias, with a very full description of the methods of operating. The book throughout is very clearly written, and each chapter begins with a discussion of the indications for operation, followed by a careful description of the technique which the author considers the best, and terminates with a brief, but in most cases sufficient, description of the after-treatment to be adopted. All the descriptions are clear and easy to follow, which is more than can be said for many books on operative technique. The illustrations, of which there are a considerable number, are quite excellent and fulfil their object, namely, to assist the reader to understand the text. The book is one which we can strongly recommend to surgeons just commencing surgical practice in a children's hospital, and any surgeon to a children's hospital will be almost sure to find some useful ideas between its pages.

P. L. M.

#### CONSULTATIONS OTO-RHINO-LARYNGOLOGIQUES A L'USAGE DES PRATICIENS.

By DR. ANDRÉ CASTEX. Paris: J.-B. Baillière et Fils, 1912. Pp. 268; 90 figures in the text. Price 6 frs.

THIS volume, from the pen of the well-known specialist who has charge of the Otological and Laryngological Clinic in the Faculté de Médecine of Paris, is valuable to specialists and general practitioners alike. It is the fruit of several years of personal experience, an experience which has shown the author that it is better to avoid the old methods of teaching and to adopt one whereby students are taken over the essentials obtained from some particular case. The matter is divided into five parts—the ear, the nasal fossæ, the pharynx, the larynx, and medico-legal points in reference to these regions. To the specialist in diseases of children there are numerous discussions of considerable value upon such subjects as oto-sclerosis in children, the complications and treatment of otorrhœa, foreign bodies in the ear, syphilis of the ear, the rôle of the doctor in relation to deaf-mute children, nasal obstruction, epistaxis, ozæna, nasal syphilis, adenoids, common affections of the pharynx, affections of the palatine tonsils, laryngeal polypi, and vocal disorders.

That oto-sclerosis often begins in childhood, that it attacks girls especially, and that childhood is the period when treatment may be of use we entirely agree, but we cannot subscribe to the assertion that the condition is especially manifested in congenital syphilis at puberty. The article dealing with aural syphilis is useful, and it is interesting to note that, as a result of his researches in the deaf-mute institution in Paris, the author has found only seven cases out of 569 (1.05 per cent.) of educational deafness due to congenital syphilis; this compares very favourably with the London statistics of Macleod Yearsley. As regards deaf-mutism, the section on the

*rôle* of the doctor in relation to the educationally deaf child is one which every general practitioner should read.

But it is impossible to deal adequately with the many excellent sections which are to be found in this work, and, in praising it highly, we recommend it as thoroughly practical, clearly expressed, and sound in its teaching.

M. Y.

LE LIVRET DE LA FAMILLE. By Dr. G. SCHREIBER. Paris: Masson & Co. Pp. 36.

This is an excellent brochure giving indications to mothers regarding their own health, and also concerning the bringing up of their children. The author describes what should be done and what avoided in the rearing of children, dividing the latter into four classes according to age, viz. from birth to the tenth day, from the tenth day to the age of two years, from two years to six years, and from six years to the age of fifteen. He draws attention to the duty of every healthy mother to feed her young, to the temperature of the room, the value of fresh air, and cleanliness—in fact, everything that a mother should know, and we cannot find that anything of importance has been omitted. We know of no work in which these matters are so succinctly put, and can heartily recommend this little book to the attention of both the medical and non-medical community.

F. R. B. A.

THE STATISTICAL REPORT OF THE AMBULATORY PATIENTS OF THE QUINTON POLYCLINIC FOR TREATMENT BY ISOTONISED SEA-WATER. (July the 1st to December the 31st, 1911.)

THIS report, which is "printed for circulation among the medical profession," is disappointing. The point in debate we understood to be the superior virtue of sea-water over other saline solutions when given subcutaneously in the treatment of the diarrhœas of infants and for other complaints, and we cannot say that this report contributes to the settling of this question. After a brief introduction follows the report, given entirely in tabular form. It opens with eighteen double pages containing the notes on cases of gastro-enteritis, each page containing about eighteen cases. There is no attempt made of any sort of classification, reliance being placed on a very brief description of the condition on admission. While, in some cases, this is sufficient to show a condition of extreme severity, in a large number it gives us no real help in estimating the patient's danger. In the introduction it is written: "A considerable proportion of the cases were of the graver type, death having actually occurred in the waiting-room in the interval before consultation." This is rather an obscure passage, but we presume that this "considerable proportion" would not appear in the statistical report. Further, the title would suggest that all the patients were ambulatory, while the introduction lays stress on the fact that the great majority were ambulatory; but we are not told in the report which of the infants were "ambulatory" and which were not. Nor is there any information as to what dietetic alterations, if any, were made in the course of the treatment.

Other sections deal in the same manner with cases of various types receiving the treatment.

We trust we shall not be thought to be adding to the "acidulous



criticism," to which the Polyclinic has been subjected when we give our opinion that, whatever be the virtues of sea-water injections, the report is disappointing in that it does not help to elucidate the question.

R. M.

TRANSACTIONS OF THE FOURTH ANNUAL CONFERENCE OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS. Pp. 287. London: Adlard & Son, 1912. Price 3s.

THE fourth annual conference of this Association was chiefly confined to the consideration of tuberculosis as it affects children, and was opened by an address by the Medical Officer of Health for Liverpool, Dr. Hope, on the "Prevention of Consumption," in which the subject of re-housing and disinfection of affected houses received full consideration. Dr. Philip opened the discussion on tuberculosis of childhood, in the course of which he stated that in Edinburgh 30 per cent. of children showed clinical signs of the disease. Dr. Delépine read a paper on the "Share taken by Human and Bovine Tuberculous Products in the Infection of Young Children," and stated that not less than 25 per cent. of the tuberculous children under five years of age suffer from infection of bovine origin. Drs. Priestley and Squire, respectively, devoted their papers to a consideration of tuberculosis during school life and its extension in the school, and the former drew particular attention to the large number of children showing patches of chest surface which did not resound to a blow of the finger-tip like the neighbouring or symmetrical parts, particularly below the clavicle, a sign which, in conjunction with the general appearance of the patient, should arrest suspicion. Dr. Squire does not believe there is much, if any, risk of the spread in schools of tuberculosis arising from tuberculous children, as the latter do not expectorate, as a rule, infective sputum until the disease has been active for some time, when the general health will probably prevent the child from attending school. He rightly, however, draws attention to the danger that would accrue from tuberculous teachers. Special schools, the hospital school, and open-air schools all received careful consideration from various speakers, and the information obtainable from reading these papers should be of value to all interested in the subject. Mr. Last gives the results of treatment in pulmonary tuberculosis in childhood in the Millfield Home, and finds that the prognosis in cavity cases is very bad; the mortality he puts at 80 per cent. The marked cases require treatment from one to four years and the prognosis depends on the environment when the children return home; the mild cases nearly all get well. This is an excellent paper and deserves careful reading, as well as that of Dr. Gauvain, who describes his experiences of surgical tuberculosis at the Lord Mayor Treloar Cripples' Home, where the mortality amongst tuberculous patients for the last three years and a half only reached 2·3 per cent. The last ninety pages of the 'Transactions' contain papers on the working of the National Insurance Act in connection with tuberculosis, and cannot be too highly praised for the lucidity of their contents. The 'Transactions' are of extreme value and interest and should be read with care by all interested in the subject. We should have liked to have heard of some of the experiences with tuberculin in childhood as a method of treatment, as they might have proved of value to future workers.

F. R. B. A.

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# THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

VOL. IX.

DECEMBER, 1912.

No. 108.

## Original Articles.

### NOTES ON A CASE OF PRECOCIOUS DEVELOPMENT IN A BOY, AGED SIX YEARS.\*

By E. CECIL WILLIAMS, M.B.,  
*Physician to the Royal Hospital for Sick Children, Bristol.*

A BOY, aged 6 years, was admitted into the Bristol Children's Hospital May the 10th, 1912. About six months prior to admission, his parents noticed he was developing quickly.

*Condition on admission.*—Weight 4 st. 2 lb., height 4 ft. 2 in. Has a slight moustache ; voice deep, like an adult's. Muscles of arms and trunk well developed ; can lift heavy weights. Is slow of intellect and movement. Cannot run as other boys of his age do. Inclined to knock-knee ; tibiae are also inclined to be curved. There is abundance of pubic hair, no axillary hair ; external genitals fully developed. No bronzing of skin. Heart and lungs normal. No tumour to be felt in abdomen. Pulse varies from 72–88. Blood-pressure 110 mm. Hg. Fundi healthy. No sugar or albumin in urine. Circumference of head  $21\frac{1}{2}$  in. He remained in hospital for five weeks, during which time he put on 11 lbs. so that his weight was that of a boy aged 13 years.

I had an opportunity on October the 15th of examining this boy

\* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on October the 25th, 1912.

again, and comparing his weight and other measurements with those taken last June.

June the 13th, 1912	October the 15th, 1912.	Normal boy of 6.
Weight 4 st. 13 lb.	5 st. 5 lb. 5 oz.	3 st. 2½ lb.
Height 4 ft. 2 in.	4 ft. 4½ in.	3 ft. 7 in.
Neck 12⅛ in.	13 in.	11 in.
Chest 26½ in.	29 in.	22 in.

This increase of weight and height, together with the advanced ossification shown in a skiagram of his hands, compared with those of an ordinary boy, aged 6 years, is striking evidence of his advanced skeletal development. There does not appear to be any further increase in his sexual development, no tumour can be felt, and he is in excellent health.

Bulloch and Sequeira have collected twelve examples of sex abnormalities in children, associated with adrenal hypernephromata and verified post mortem; to this number Glynn has added five more cases.

A study of these seventeen cases shows—(1) that all except two were observed before seven years of age (my case is six years old). (2) That only three of the seventeen cases were boys. (Mr. Hugh Lett showed a living example of precocious growth in a boy, aged 4 years.) (3) A tendency in case of males towards an increase in the male characteristics—*e. g.* in my case, boy's muscular power—whereas in females there is a tendency to increase the male primary and secondary sexual characteristics at the expense of the female, *e. g.* appearance of beard, hypertrophy of clitoris.

Adrenal hypernephromata in children tend to grow slowly and do not all tend to be disseminated. Other cases of precocity in children have been reported in connection with the pineal gland. In order to ascertain whether there might be any pituitary enlargement, I have had a skiagram taken to show the base of the skull. I have the permission of Prof. Fawcett to say that from the skiagram he thinks the sella turcica and pituitary fossa are enlarged (*vide infra*).

There is now a considerable amount of evidence of a correlation between sexual development and the various ductless glands. Bulloch and Sequeira refer to several cases of retarded sexual development in association with a hypoplastic or atrophied condition of the adrenals. They also refer to the "shrivelled" post-mortem appearances of the supra-renals in one of Hastings Gilford's cases of premature senility. The observations of Gottschau on the increase of cortical cells—in pregnant rabbits—at the expense of the medullary cells, and the observations of Stilling on frogs during the



pairing season, that the medullary cells disappear and characteristic cells called summer cells take their place, are adduced as evidence that the cortex is the portion of gland more intimately connected with growth and development. The blood-pressure of 110 mm. Hg.



is certainly high. J. D. Rolleston states the blood-pressure rarely exceeds 105 mm. Hg. before twelve years of age. Dr. A. T. McCaw has taken a large number of blood-pressures at the Bristol Children's Hospital, which confirm Rolleston's figures. May this high blood-pressure be due to an excess of suprarenal or pituitary extract in the blood, possibly the result of glandular irritation due to a new growth?

NOTES BY PROFESSOR FAWCETT.

*The skull.*—As far as can be judged from a skiagram of the skull, the pituitary fossa is enlarged in the antero-posterior direction. The length of the cranium by external measurement is 190 mm., and the greatest breadth is 145 mm. The mandible is somewhat small in comparison with the other face bones, and as a consequence the permanent incisors are very irregular. The large size of the face is mainly due to fat.

The bones of the hand are in an advanced condition of ossification. The pisiform is of large size, and the various epiphyses are practically of full size. In a boy of six one does not find the pisiform at all, and the phalangeal epiphyses are much smaller than the base of the shafts of the phalanx. In this boy the epiphyses have reached practically their full relative size. The proximal thumb sesamoids are, too, well ossified. The condition of the hand bones is what one might expect in a boy of fourteen to sixteen years of age.

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## THE CUTANEOUS REACTION TO TUBERCULIN IN CHILDHOOD.

By C. PAGET LAPAGE, M.D., M.R.C.P.,  
*Physician to the Manchester Children's Hospital.*

(Continued from p. 502.)

*Repetition of test.*—Taking those cases in which the test was done a second time, in most cases because the first test was negative, we find that both tests were negative in 48, of which clinically 7 were negative, 14 possible, 12 suspicious, 7 probable, and 8 definite.

The first was negative and the second test positive in 19, of which clinically 6 were possible, 8 suspicious, 2 probable, and 2 definite.

In two cases only the third test was positive, and in two other cases only the fifth test was positive. Therefore in 19 of 67 cases, or 28 per cent., the second test showed a positive result when the

previous test had been negative—figures which illustrate the importance of performing the test twice.

Of those cases which were tested a second time although the first test had already been positive, in 18 the second test was positive, and in 2, one possible and one suspicious, it was negative.

Lord found that in those cases giving the reaction on two separate occasions the first was equal to the second in 7, greater in 15, and less in 52, but in all cases the difference was only slight.

Other observers have said that a second reaction is likely to be greater than the first, but of the 22 cases showing two positive reactions, in 5 the second reaction was greater than the first, and in 3 the first reaction was greater than the second ; in 14 the two reactions were of equal intensity.

*Re-testing and sensitisation.*—Vaughan, using the ophthalmic reaction found that a primary negative result followed in eight days by a positive result meant that the body had become sensitised to tuberculin. In attempts to sensitise 30 children, 10 were successfully sensitised. No sensitisation could be effected in the children of tuberculous parents.

Of the cases in which the effect of the administration of tuberculin on the reaction was studied, two at least out of three or four have shown an increased tendency to react, and one in whom a dose of tuberculin produced unpleasant symptoms showed at the same time an excessive reaction, going on to vesiculation, at the site of an old cutaneous test—a fact which goes to prove the specificity of the reaction.

*Effect of human and bovine tuberculin compared.*—For this purpose some 200 cases under constant observation in a ward were tested simultaneously with both forms of tuberculin.

Other observers who have done work of a similar nature obtained the following results.

Clarke and Forsyth found that of 61 cases of pulmonary tuberculosis in which the reaction was positive to both forms of tuberculin, 28 were of equal intensity, in 17 the reaction to human was greater than that to bovine, in 16 the reaction to bovine was greater than that to human, and in 2 there was a reaction to human only and in 3 to bovine only.

MacNeil found that in 330 tests in children the 258 were of equal intensity, the human was greater than bovine in 52, the bovine greater than human in 9, the human positive and bovine negative in 11, the bovine positive and human negative in none.

Lucas, taking 50 cases of cervical adenitis and using bouillon



filtrates of human and bovine tuberculin and Koch's old tuberculin, found that 58·2 per cent. reacted to all three, 2·4 per cent. to human and not to bovine, 27·8 per cent. to Koch's old tuberculin and not to the other two, and none to bovine and not to human. He concludes that Koch's old tuberculin is the best solution to use.

Kentzler did not note any difference in the reaction to human as compared to bovine tuberculin, but Wolff-Eisner holds that this is due to his not having observed the quantitative nature of the reaction and also to his having used too weak a tuberculin.

With regard to diluting fluids, Junker found that 5 per cent. carbol glycerine may cause a reaction and is therefore too strong. He advocates the use of 0·5 per cent. carbolic acid and 3 per cent. glycerine.

The results of 200 tests with human and bovine tuberculin and with diluting fluid showed the following results when applied to all children on admission to the hospital ward, irrespective of the nature of the illness, but including a fairly large percentage of suspicious cases. In 48, or 24 per cent., all three tests were negative; in 100, or 50 per cent., the reactions to human and bovine tuberculin were of equal intensity; in 27, or 13·5 per cent., there was a reaction to human and none to bovine; in 8, or 4 per cent., there was a reaction to bovine and not to human; in 10, or 5 per cent., the reaction to human was greater than that to bovine; in 7, or 3·5 per cent., the reaction to bovine was greater than that to human. In 7, or 3·5 per cent., the control was positive, this being due probably to accidental infection from the spots inoculated.

A closer analysis of the cases in which the reactions to the different strains of tuberculin differed showed very little, except that in the cases in which the reaction to bovine tuberculin was greater than that to human there seemed to be an unusually large proportion of cases of abdominal tuberculosis. The figures were, however, much too small for general conclusions, and on the whole it is doubtful whether this was more than a coincidence.

What these results do show, however, is that it is much better to use human tuberculin than bovine, and that, with ordinary care, there is no reaction and no risk of fallacy in the use of glycerine and carbolic acid in the strengths mentioned. Taken in conjunction with the experiments of Lucas and Kentzler the results show: (1) that Koch's old tuberculin in a strength of 25 per cent. gives very good results, but in the light of more recent observations it may be better to use undiluted old tuberculin; (2) that tuberculin from bovine sources may quite possibly give unreliable results; and (3) that

glycerine 20 per cent. and carbolic acid 0.5 per cent. have no effect in producing a reaction.

Since bovine tuberculin may give unreliable results the nature of the tuberculin used is likely to have some effect on the percentage of positive results obtained, and this may be a partial explanation of discrepancies in results that have been formerly recorded. The results obtained, by Calmette's method are, however, considerably higher than one would expect from a tuberculin of bovine origin.

*The X-ray examination and the result of the cutaneous tuberculin test.*—It is instructive to compare the results of the X-ray examination and the cutaneous test, but before doing so four points must be noted: (1) The tuberculin test reveals tuberculous infection in any part of the body while the X-ray examination reveals thoracic tuberculosis only. (2) The tuberculin test may be negative in advanced or active tuberculous disease when the X-ray examination is positive. (3) A single negative tuberculin test does not exclude tuberculous infection because a second test is often positive in these cases. In some cases the test is not positive until the third application, and it will be of interest to see whether, as is held by many observers, a negative test on two occasions excludes tuberculous infection. (4) The cutaneous test was performed with 25 per cent. Koch's old tuberculin, whereas more recent researches show that it is probable that undiluted tuberculin gives more reliable results. Therefore, negative results obtained, to 25 per cent. tuberculin may not be always conclusive.

The X-ray examinations were made by Dr. Bythell, radiographer to the Manchester Children's Hospital, and his interpretation of the screen-picture was made before he knew the report on the clinical examination and the tuberculin test. I was present at all the examinations, and I am strongly impressed with the value of this method in the hands of a skilled observer.

TABLE C.

		Clinical examination.*
In 24 cases negative to the X-ray examination, the tuberculin test was:	+ in 8	2 suspicious
	— in 13	4 possible
	— — — in 3	18 negative
In 14 cases possible to the X-ray the test was:	+ in 10	4 definite
	— — + in 1	2 probable
	— in 3	3 suspicious
		5 possible

\* The results of the clinical examination are also appended for comparison, and will be seen to correspond fairly closely with the other two sets of results.

		Clinical examination.
In 11 cases, 3 probable and 8 suspicious to X-ray, the test was :	+ in 7	3 probable
	- in 1	3 suspicious
	- - in 3	3 possible
		2 negative
In 58 cases positive to X-ray the test was :	+ in 39	27 definite
	- + in 1	4 probable
	- - + in 3	18 suspicious
	- in 13	6 possible
	- - in 2	3 negative

So that in those cases negative to X-ray examination the reaction was present in 33·3 per cent., and in those cases positive to X rays it was present in 72 per cent. That the reaction was present in so many as 33·3 per cent. is explained by the fact that the X rays do not show abdominal tuberculosis.

The more important figures are those relating to the cases positive to the X-ray examination. It will be seen that 74 per cent. gave a reaction, 26 per cent. did not, and 8·6 per cent. did not react to the first two tests. Some of the cases not giving a reaction were advanced in nature and did not react for this reason and some were not tested a second time, but the figures show that a single negative cutaneous test is not conclusive.

Since the above table was made out I have purposely selected and examined some cases negative twice to the cutaneous test in order to note its reliability. Of 12 cases giving no reaction to the cutaneous test either on the first or second application, and of the 2 giving no reaction on the first, second or third application, making 14 in all, 4 were negative to X-ray examination, 4 suspicious, 1 possible and 5 positive. The clinical examination showed : (1) In the 4 negative to X rays 2 possible and 2 negative ; (2) in the 4 suspicious to X rays 2 possible and 2 suspicious ; (3) in the 1 possible to X rays 1 suspicious ; and (4) in the 5 positive to X rays 3 suspicious and 2 probable.

Therefore a certain number of cases which are neither advanced nor even definitely tuberculous to X rays or to physical examination give no result to the tuberculin cutaneous test applied on two separate occasions.

Further, of the two cases negative to the cutaneous test three times, one, though not an advanced case clinically, was definitely tuberculous when examined by the X rays and one was negative. Of the three cases not giving a reaction until the third testing, two, one of which



was an advanced and cachectic case, were positive, and one, negative clinically, was suspicious to X rays.

These results throw some doubt on the absolute reliability of the tuberculin cutaneous test as an unerring indicator of tuberculous infection. It looks as if the test is rarely but sometimes negative when there is tuberculous infection, but no cachexia or extreme activity of disease. This may be because diluted (25 per cent.) tuberculin was used, but the fact remains that of 18 cases in which there was no reaction either in the first or second application, in 8 the X-ray examination was positive. Therefore leaving out cases of advanced tuberculosis or of mixed infection, negative results on two separate occasions to the cutaneous test, as made with 25 per cent. Koch's old tuberculin, though usually and practically speaking excluding tuberculous infection, cannot be held to do so in every case. This is an important conclusion, because von Pirquet and others have stated that two negative tests do exclude tuberculous infection.

Barbe-Oberlin holds that two negative cutaneous tests exclude tuberculosis even though X-ray evidence may arouse suspicion. The X-ray examination may not be established as absolutely reliable, but, from my experience, I cannot say with other observers that the cutaneous test is an unerring indication of tuberculous infection. A positive result means infection, but a negative one does not always exclude it. Possibly, but I do not think probably, the test may not be open to this criticism if undiluted tuberculin is used or if the intra-dermo method be adopted. However, since one of my cases positive to X ray did not react cutaneously to undiluted tuberculin on two occasions, my experience of the use of undiluted tuberculin does not lead me to expect this; but it has been too small for definite statements and I have not used the intra-dermo method. Therefore I still regard it as probable that a certain small proportion of cases of tuberculosis other than those of advanced disease do not react to tuberculin efficiently administered by the cutaneous method.

#### SUMMARY AND CONCLUSIONS.

The reaction to tuberculin is specific, and it is a broad rule that all cases infected with tuberculosis give a reaction.

The subcutaneous method gives the highest percentage of results, but for practical purposes the cutaneous method is the most suitable.

Human tuberculin should be used because bovine tuberculin does not give reactions in all cases.

The substances used to dilute the tuberculin do not in themselves cause a reaction in the strengths they are now used.

The nature of the reaction is not yet proved.

The results of the clinical examination and the tuberculin test are confirmatory of one another, the reaction occurring far more frequently in those showing symptoms pointing to tuberculous infection.

The X-ray examination and the cutaneous tuberculin test correspond fairly closely if their results are properly interpreted.

A reaction indicates that the subject has been infected with tuberculosis and does not mean that the disease is progressive or even active.

We have at present no method of performing the test to afford us a means of distinguishing between active and passive disease, but research may find such a method.

A marked reaction or a reaction in a healthy person may be of good import and need not bear a sinister interpretation.

Slight reactions seem to occur more often in cases negative or only possible clinically.

A negative result may follow the test in children infected with tuberculosis ; (1) if the disease is advanced ; (2) if there is cachexia ; (3) in very acute disease ; (4) in mixed infections or cases complicated by acute disease.

A single negative test does not exclude tuberculous infection, repetition of the test increasing the percentage of positive results considerably (28 per cent.).

Even a negative result on repetition of the test does not always exclude infection, because some cases are only positive on the third application and others, positive to X-ray examination, but neither advanced nor cachectic in nature do not react to repeated tests. Therefore, judged by the X-ray examination, the cutaneous tuberculin test cannot be regarded as absolutely reliable in excluding tuberculous infection.

In some cases the first test may stir up powers which have not given a reaction at the first test, but which produce a reaction at the second test.

With the exceptions noted above, and excluding faulty technique, a negative result to the test applied twice can for all practical purposes be held to mean that there has been no infection with tuberculosis.

There is greater difficulty in diagnosing occult tuberculosis after the age of two years. In indicating tuberculous illness the test is of greatest value in young children.

As judged by the cutaneous test on children attending at a hospital, tuberculous infection occurs in 32 per cent. up to the age of 2 years, in 51·2 per cent. from 2–5 years, in 60 per cent. from 5–10 years, and in 60·8 per cent. from 10–14 years. Even in cases negative to clinical examination, infection occurs in 14·7 per cent. up to the age of two years, in 31·4 per cent. aged from 2–5 years, in 30·7 per cent. aged from 5–10 years, and in 51·2 per cent. aged from 10–14 years. In other words tuberculous infection is common in early life, increases rapidly in frequency up to the age of ten years, and then increases steadily but less rapidly, until at the end of school age at least 60 per cent. of children have become infected. Even in cases negative to clinical examination about 50 per cent. have become infected.

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## A CASE OF INTERSTITIAL KERATITIS.

By J. ALLAN, M.D.

THE following case ran a fairly typical course, but, as it presented one or two features of more than ordinary interest, its record may be permitted. The case was that of a school boy, aged 13 years, who first came under observation in the summer of 1911. The



history was that his eyes had been inflamed for one month and that his sight had recently been rapidly failing. On examination it was seen that he had interstitial keratitis, both eyes being affected. As the appearances were typical they need not be described.

But the diagnosis of interstitial keratitis is only a partial diagnosis—the underlying causative factor must be sought for. This eye condition is frequently attributed to syphilis, and in many cases this supposition is correct, but in the present case there was not the slightest evidence to support the specific nature of the disease. The family history was good. There were two other members in the family, both healthy children. The patient had not previously had any severe illness and he presented none of the stigmata of syphilitic infection. In spite of the fact of all being against the specific origin of the disease he was first tried with anti-syphilitic remedies but without effect. Not only was the condition not improved, but it became much worse. I think this very fact was not without diagnostic import, for a disease of specific nature will hardly “fail to respond” to a fair trial of the usual remedies. I don’t say “fail to be cured,” because I only mean to indicate that the fact that there was not the slightest improvement under anti-syphilitic treatment was of significance.

This signal failure with anti-specific remedies led one to seek for some other causative factor. It was suggested that the condition was tuberculous and the boy was given the syrup of the iodide of iron. The evidence in favour of its tuberculous nature was not very strong. There was no evidence of tubercle in the lungs or in other parts of the body. Moro’s tuberculin test was carried out, but one could hardly say there was a positive reaction. A very faint erythema at the site of inoculation at the end of forty-eight hours was the only reaction which occurred. A certain amount of improvement followed this second treatment, but the condition again became stationary. At this time a trial was given to guaiacol applied to the skin. The treatment is carried out in the following manner: The patient is kept strictly in bed between blankets, so that there will be no risk of his getting a chill. The anterior surface of the abdominal wall is generally chosen for the application of the mixture which consists of equal parts of guaiacol and olive oil. An area (one foot square) of the site indicated is painted with this mixture, about one and a half or two drachms of which are used for one application. The portion of skin painted is covered with oiled silk or other material of an impervious nature, and superimposed on this is a layer of cotton-wool, and if thought necessary, can be secured by means of a binder.

One effect of the guaiacol will be to produce sweating—hence the reason for carefully guarding against chills. It is important that the bowels should be kept well opened, and therefore the administration of calomel followed by a saline aperient is indicated. It is customary to give the mercurial purge in the evening after the painting with guaiacol has been practised earlier in the day. The painting may be carried out several times, and in this case three applications were made, an interval of forty-eight hours being allowed between each painting. The boy tolerated the treatment well, and no untoward effects, local or general, were noted. I don't know if intolerance would have been exhibited had the guaiacol been given more frequently, but I have always thought it wise as a precautionary measure to intermit a short time between each application.

After this treatment had been tried the eye condition very markedly improved and there has been no relapse. The recovery of vision has been remarkably good in one eye. During the acme of the attack of interstitial keratitis about the end of last year (1911), the boy was to all intents and purposes blind. Vision was reduced to "hand reflex," and he had to be led about. At the beginning of this year the sight in the right eye began to improve and it has steadily progressed since then. In March of this year vision of that eye was noted as being  $\frac{6}{36}$ , and when the youth was seen a few weeks ago vision was registered as  $\frac{6}{9}$ . The left eye is not so satisfactory, but I question if one can hope for very much improvement in that eye, for there is the history that the sight in that eye has always been bad, there having apparently been a slight divergent squint of the left eye. The chances are that the eye is partly amblyopic, and vision will always be defective. The scarring left by the keratitic condition has not cleared up so well as on the other side. With the left eye the patient sees the test-cards on the wall at a distance of six metres and he can make out black marks on them, but he cannot quite distinguish individual letters. Vision is therefore not quite equal to  $\frac{6}{60}$ . This probably represents the maximum recovery to be expected in that eye, although by practising the eye it is possible some further improvement might take place. In July last I did a retinoscopy to see if there were any refraction error, but the examination indicated that there was none. Under atropine there was found about 1.5 dioptries of hypermetropia, but when allowance is made for the effect of the mydriatic this really means that the eye is emmetropic. When he was afterwards tried with weak lenses (both convex and concave) no improvement of vision was recorded.

It is really wonderful how great is the power of recovery in the eye. Anyone who saw the patient a year ago could hardly have believed that the keratitic process would clear up so well. He is also in much better general health. During the earlier months of his eye affection his general state of health was not satisfactory, but it was difficult to attribute to any particular organic disease. The boy was thin and rather anæmic, but he had grown very rapidly, and this probably had something to do with his poor general condition. The family medical attendant reported that the boy had albuminuria, but this was evidently only temporary. I tested his urine every second day for some weeks and on no occasion did I find the slightest trace of albumen. The boy has now been back at school for about six months; at first he only attended to listen to the class lessons, but recently he has been permitted to do some reading and writing. No bad effects have followed this gradual return to visual work.

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## British Medical Association.

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### SECTION OF DISEASES OF CHILDREN.

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*Eightieth Annual Meeting, held in Liverpool, July the 24th-26th, 1912.*

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**After-results of Major Operations for Tuberculous Disease of Joints.**—Mr. H. J. STILES read a paper on the results of 205 resections of large joints performed by him at Edinburgh between 1901 and 1911.

**Knee.**—The best results had been obtained in this joint. Sixty-three excisions had been performed, of which 38 had been traced. Average age at operation, five years; average duration of disease before operation, fifteen months. Sixty-two per cent. were below six years old, the remainder were under twelve years. In 23 cases bone disease was present, in 32 there was an abscess or sinus. Primary union resulted in 53 cases; in 12 subsequent amputation was required. There were 4 deaths—1 from measles, and 3 from generalised or meningeal tuberculosis. In all there was advanced disease at the time of operation. In all the cases traced the general health was good and the patient could walk without support.

**Hip.**—Of 59 cases operated on, 40 had been traced. In 19 the results were good; 12 had died from general or meningeal tuberculosis. In 3 subsequent disarticulation was required; 5 required further operations for slight recurrence.

**Elbow-joint.**—Of 54 cases operated on, 34 had been traced. In 10 the results were good. Six had died from general tuberculosis, 1 required amputation. In 7 the limb was somewhat flail-like, in only 1 of these was the function unsatisfactory.

**Ankle-joint.**—Of 29 cases operated on, 25 had been traced. Three had



died, 2 from general tuberculosis; in 6 amputation was subsequently required; in 15 the results were good.

**Dyspepsias of Children after the age of Infancy.**—Dr. R. HUTCHISON said that these might be due to disorder of function (1) in the stomach, (2) in the intestine, (3) in the liver. Clinically these disorders often existed in combination. *Gastric dyspepsia*.—Dyspepsia from organic disease of the stomach, such as ulcer, malignant disease or stenosis was rare in childhood. Functional gastric disorders might affect (a) secretion, (b) motility, (c) sensibility. Owing to the absence of test-meal evidence it was difficult to determine the frequency of diseases of secretion. A defect of motility (gastric atony) was probably the commonest functional affection of the stomach at this age. *Intestinal dyspepsia* was probably the commonest form of digestive disturbance in childhood, and produced such symptoms as colic, flatulence, constipation and diarrhoea and food fever. It was probably due to excess of carbohydrates in the food. *Hepatic dyspepsia*.—This might be inferred when dyspepsia was associated with a comparative absence of colouring matter in the stools. Probably the "mucous disease" of Eustace Smith was a combination of gastric atony and hepatic inadequacy.

*Ætiology*.—Congenital neurasthenia was an important factor, but dental caries was not. Defective mastication and bolting the food were, however, a frequent cause. Defects in diet and over-pressure at school were often responsible for dyspepsias in children. *Treatment*.—Change of air was of more importance than change of diet. Over-use of carbohydrates was to be avoided. Drugs were of minor importance. Mild purgatives and alkalies were the most useful.

**Unusual Malformation of the Anus in an Infant.**—Mr. G. H. EDINGTON (Glasgow) reported this case in an infant aged 2 days. The anal depression was shallow and had no communication with the bowel. The rectum terminated close to the anus, and from it a fistulous track led to an opening at the base of the scrotum from which a little meconium escaped. No sphincter ani was present.

**Tuberculous Disease, and Tuberculous Infection in Infancy and Childhood.**—Dr. C. PAGET LAPAGE (Manchester) said that one half of all cases at the Manchester Children's Hospital examined post mortem showed macroscopical evidence of tuberculosis in the abdominal or thoracic glands. Definite lesions of mediastinal glands or root of the lungs were found in more than half of 120 examined. Only 8 showed apical involvement. The X rays showed positive infection in 26 cases where physical examination was negative and in 56 where it was doubtful.

**Fibrous and Fibro-cystic Osteitis.**—Mr. R. C. ELMSLIE distinguished (1) localised fibrous osteitis; (2) localised fibro-cystic osteitis; (3) general fibrocystic osteitis (von Recklinghausen); (4) cystic osteitis. Spontaneous fracture was usually the first symptom of cystic osteitis; swelling or deformity from bending usually appeared first in fibrous osteitis. Diagnosis from endosteal tumour or a central abscess could usually be made without exploration by consideration of the following points: In cystic disease there were (1) no alteration in the length of the bone, and (2) absence of pain or swelling, perfect function (until fracture occurred), and absence

of muscular wasting. The X rays showed a cavity in the centre of the bone, not divided by trabeculae as it was in fibro-cystic disease. Treatment should consist in curettage and crushing in the cyst-wall. In fibro-cystic disease the deformity could be remedied by osteoclasts or osteotomy.

The following papers were also read, "A Method of Operating for Webbed Fingers," by Mr. A. H. Tubby; "Spasmodic Contraction of the Peroneal Muscles in Flat Foot," by Mr. G. C. E. Simpson and Mr. N. Dunn (Liverpool); "Operative and Post-operative Treatment of Spasmodic Flat Foot," by Mr. T. R. Armour and Mr. Dunn (Liverpool); "Physiological Scoliosis," by Prof. M. Jansen (Leyden); "Some Principles of the Treatment of Lateral Curvature of the Spine by Exercise," by Mr. T. S. Kellett Smith (Eastbourne); "A Recent Case of Lorenz Operation; Demonstration by X rays of the Development of the Acetabulum," by Mr. W. S. Houghton (Dublin); and "A System of Printed Anamnestic Questions for Children Out-patients," by Dr. F. C. Eve (Hull).

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## Royal Society of Medicine.

### SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

*Friday, October the 25th, 1912.*

Mr. A. H. TUBBY, *President, in the Chair.*

**Tetanioid Spasms.**—Dr. EDMUND CAUTLEY showed a male child who had been born on September the 4th at term, without difficulty, and brought up on milk and barley-water. Since ten days of age he had had attacks of rigidity about every half hour. The mouth was said to be clenched, the neck rigid, but the head not retracted, and the hands clenched. He took food with difficulty and regurgitated some through the nose during the attacks. The child's nutrition was good. There was no indication of sepsis, and only a few curds were present in the stools. During the attacks the whole of the upper half of the body became rigid, the neck muscles extremely so, and the head was slightly retracted. The eyes were closed and the mouth could be opened very little. The fontanelle did not bulge. The hands were flexed at the wrists and the fingers and thumbs hyper-extended, not assuming the attitude characteristic of tetany. The toes were hyper-extended. Since admission the attacks had become less frequent and less severe.

**Partial Aphasia.**—Dr. EDMUND CAUTLEY showed a female child, born March the 25th, 1909, who had been admitted to the Belgrave Hospital for Children on July the 29th, 1912. For twelve days she had had slight cough, and for six days drowsiness and anorexia. On July the 28th there was general twitching, possibly a fit. On admission she was drowsy and uttered occasional cries. There was no fever. The pupils were dilated and sluggish and there was slight convergent squint. The head was a little retracted and the neck muscles rather stiff. The legs were flexed at the hips and knees, and the child resented them being straightened. There was

moderate general bronchitis. She afterwards developed flaccid paralysis of the legs. Knee-jerks normal. Plantar reflex extensor on the left, flexor on the right side. Cerebro-spinal fluid was under considerable pressure, clear, and contained very few cells. The child uttered an occasional meningeal cry. On August the 26th she took more notice and moved arms about, but could not speak.

She had steadily improved and gained weight, but spoke in a somewhat drawling manner. She was quite intelligent.

The diagnosis lay between encephalitis and serous apoplexy.

**Congenital Syphilis; Hæmaturia.**—Dr. J. PORTER PARKINSON showed a girl, aged 8 years. There were seven other children; the first was born dead, the second was a seventh-month child and lived seven hours, the third child suffered from epileptic fits, and the others were presumably healthy. Three weeks before admission the patient had jaundice, vomiting, and diarrhœa, and the urine was red in colour, and there was some swelling of the face and limbs. This passed off, but reappeared, and the child was brought to the hospital a week later.

On admission she was pale, with a slight earthy tinge of face. Slight œdema of the eyelids and ankles. The heart, lungs and abdomen were normal. The blood-pressure was 115 mm. The urine was reduced in quantity, 8 to 10 oz. daily, specific gravity 1020, a considerable quantity of blood and a small amount of albumin. Microscopically no casts were seen, only blood-cells and a few epithelial cells. There was a small linear scar on the lower lip. The Wassermann reaction of the blood was strongly positive; on this account she was having mercurial inunction. The blood in the urine rapidly diminished, and neither blood nor albumin were present after first week in hospital.

The cerebro-spinal fluid was negative to the Wassermann test.

**Congenital Family Cholæmia.**—Dr. F. J. POYNTON showed a girl, aged  $8\frac{1}{2}$  years, who was admitted for an exacerbation of jaundice from which she had suffered since birth. She had always been delicate and subject to these exacerbations on slight indisposition, particularly in cold weather. Father and one sister jaundiced also. One sister died at four months with jaundice and convulsions. Skin, conjunctivæ, and mucous membranes definitely bile-tinged. Motions normal in colour; urine occasionally contained urobilin, but never bile-pigment. Spleen palpable; had been getting much smaller during stay in hospital. Blood-serum free from urobilin or bile-pigments. Wassermann test negative. Red cells (September the 28th), 3,711,250; white cells, 11,200; hæmoglobin, 56 per cent.; colour index 0.75. Percentage of "hæmatics granuleuses" in red cells 8 per cent. (September the 26th); 11 per cent. (October the 4th). Fragility on four separate occasions, 0.6, 0.65, 0.65, 0.65.

Dr. C. R. Box showed a similar case for which excision of the spleen had been done with benefit.

**Genu Valgum due to Rarefaction and Deformity of the Shaft of the Femur.**—Mr. P. MAYNARD HEATH showed a girl, aged  $5\frac{1}{2}$  years. She suffered from severe right genu valgum but could walk. There was no history of injury, but she had been very much neglected in early childhood. She showed obvious signs of rickets (shape of the head, rosary, enlarged epiphyses). She was very pale and nervous. The chief deformity was due



to a sharp bend in the shaft of the right femur—about 4 in. above its lower extremity. An X-ray photograph showed that at this joint the bone was so rarefied as to be practically translucent. The rarefied area was not sharply outlined, and there was no evidence of cyst formation. There was some laxity of the ligaments in the right knee, and a well-developed Macewen's spine at the point of attachment of the internal lateral ligament to the tibia. There was very little deformity about the left knee, but a well-marked coxa vara on each side and some deformity of the upper extremity of the right humerus. X-ray pictures in these situations did not show areas of rarefaction.

**Cerebral Maldevelopment (? Sclerosis), with Infantilism and Idiocy.**—Dr. REGINALD MILLER showed a boy, aged  $8\frac{1}{2}$  years; born at full term by instrumental labour; first child. Appeared normal at birth but did not develop properly; grasped nothing in fingers until  $3\frac{1}{2}$  years old. Teeth erupted from twelfth month to third year, but rapidly decayed, and most were extracted when four years old. Height 35 in., weight  $22\frac{1}{4}$  lb., circumference of head  $17\frac{1}{2}$  in. Face senile in appearance from falling in of mouth. Testicles partially undescended, left small. Could not walk or talk; never cried. Feet inclined to cross, hand and fingers hyper-extended; tremor of lips and hands. Dirty in habits, very destructive. By retching efforts brought food up into mouth, and unless controlled produced vomiting by forcing fingers down his throat; the amount of this vomiting daily was considerable. Wassermann test negative.

Skigrams (Dr. Harrison Orton): Long bones small, but otherwise normal. Mandible small and senile in type; only five teeth of second dentition visible unerupted.

**Coxa Vara.**—Mr. DUNCAN C. L. FITZWILLIAMS showed a boy, aged 7 years. He had limped ever since starting to walk, and the right leg was said to always have been shorter than its fellow. The apparent shortening was about 4 in., the real shortening fully an inch. The condition was extremely like a congenital dislocation of the hip, for the whole of the right limb was smaller than the left; this was especially well seen in the feet. The X ray showed an extreme degree of coxa vara, probably congenital in origin. An attempt to place the limb in an adducted position after subtrochanteric division of the bone had only been partially successful.

**Traumatic Pancreatic Cyst.**—Mr. T. H. KELLOCK showed a girl, aged 11 years, who was knocked down by a horse in March, 1912, and said she was kicked by the horse in the abdomen. She was admitted to hospital almost immediately afterwards, somewhat collapsed, and complaining of pain and tenderness in the left hypochondrium. The muscles in that region were very rigid, and it was thought that there was some fulness in the region of the spleen; there were no external marks of injury. The case was taken to be one of slight rupture of the spleen. Nothing was done surgically, the child gradually improved, and was sent to a convalescent home about a fortnight later, there being still a little increased resistance to palpation in the left hypochondrium. She remained at the convalescent home for three weeks, and then returned to her home and attended school apparently quite well. With a number of other children she was, one day, examined by the school medical officer, who found she had an abdominal tumour; of this the child was unaware.

Re-admitted to hospital September the 14th, 1912, apparently in perfectly good health, a tumour was visible as she lay on her back or stood up, occupying the left hypochondrium; it was tense, fluctuating, fixed, and not tender on manipulation; extended to the right beyond the middle line of the body; was resonant above, but quite dull on percussion; at its central part resonance could be obtained behind it in the left lumbar region. The temperature was normal, and there were no abnormal constituents in the urine.

A few days after admission an incision was made through the upper part of the left rectus muscle into the abdomen and the cyst exposed. It was found to be retroperitoneal, pushing the stomach upwards and the transverse colon downwards. A trocar and cannula were inserted, and 50 oz. of greenish, opalescent fluid escaped; it was alkaline, and on examination proved to be pancreatic. A finger passed behind the cyst detected the left kidney in its normal position; there were thought to be a few adhesions round the spleen. The opening in the cyst-wall was enlarged and a finger passed into it; the interior of the cavity felt rough and granular, and the finger could be made to reach in front of the spinal column and beyond the middle line. The edges of the opening into the cyst were sutured to the abdominal wall and a large drainage-tube inserted, the edges of the abdominal wound being closed round this; a long tube was added to the drainage-tube leading into a bottle by the side of the bed.

During the following twenty-four hours the temperature rose to 102° F., and on the third day to 103° F., but then rapidly fell to the normal. Only 3 oz. of fluid escaped by the tube into the bottle, and as none appeared to be collecting in the cyst, the tube was shortened on the fourth day, and removed altogether two days later, when the opening rapidly closed; the rest of the wound having healed by first intention.

The patient was discharged on October the 8th.

**Ocular Torticollis.**—Mr. SYDNEY STEPHENSON showed a case which he said was strictly comparable with cases where patients endeavour to eliminate the diplopia produced by paralysis of one of the external muscles of the eyeball by a compensatory carriage of the head, which may be so characteristic that the muscle affected can almost be diagnosed from that symptom alone.

Girl, aged 9½ years, was brought to hospital for children on August the 29th, 1912, with the history that she had been treated for some months by electricity for torticollis. The child had carried her head on one side since she was twelve months of age, and the condition had not become worse since then. She had had no illness other than measles at two years of age. She belonged to a family of nine children, of whom one died of pneumonia at three years, one is mentally unsound, and a third suffers from "rheumatism and a bad heart."

In the child's habitual attitude the head was inclined towards the right shoulder, forming an angle of about 30° with the vertical. It could be straightened instantly at the child's will. There was no tension on the sterno-mastoid muscle, no twisting of the head, and no asymmetry of the face, points in which the condition offered an instructive contrast with cases of ordinary torticollis. There was no obvious deformity of the skull. The spinal column was slightly inclined to the right in the dorsal region, and to the left in the lumbar region. The condition showed the usual accompaniments of a right dorsal curve.

With the head in the abnormal position the right eye was often free from squint, but at other times it was inclined downwards for from  $8^{\circ}$  to  $10^{\circ}$  (strabismus deorsum vergens). But as soon as the head was straightened the other (left) eye deviated upwards to a corresponding amount (strabismus sursum vergens). The investigation of double images was rendered untrustworthy by the nervousness of the child, but as far as could be made out, when the head was tilted there was usually no diplopia, and when it was straightened double images were seen. Apart from the squint the eyes were healthy.

**Lateral Sinus Thrombosis; Operation; Recovery.**—MR. PHILIP TURNER showed a boy, aged 14 years, who was admitted on July the 8th for headache and discharge from the left ear. The discharge from the ear had been present for eight years, and had appeared during an attack of typhoid fever. The acute trouble appeared about a week before admission after a visit to a swimming-bath. The left side of his neck became stiff and painful, and he had a shivering fit. Since then he had one or more rigors daily until admission. When seen his temperature was  $104^{\circ}$  F., and pulse-rate 128. A diagnosis of lateral sinus thrombosis was made. The antrum and mastoid cells, when opened, contained pus, and the posterior wall of the antrum was found to be destroyed, exposing the posterior fossa. A radical mastoid operation was rapidly performed, and the posterior fossa thoroughly exposed. The wall of the lateral sinus was sloughing and pus was oozing from a small perforation in this. The sinus was opened for an inch, and, after septic clot had been scraped away, bled freely from its upper end. The internal jugular was then ligatured. After the operation rigors occurred daily for seven days, while for a further two weeks there was a daily rise of temperature to about  $103^{\circ}$  F., with a feeling of chilliness without shivering. After the operation the left cheek became swollen and tender; two weeks later this was incised and about 2 oz. of pus were evacuated, the facial vein being seen traversing the abscess cavity. Double optic neuritis was present at first, but this had completely cleared up by the time he left the hospital. The temperature fell to normal twenty-three days after the operation, from which time convalescence was uneventful. For three weeks there was a cough with muco-purulent expectoration and physical signs of bronchitis. Cultivations of the pus showed the presence of *Bacillus pyocyaneus*, *pneumococcus*, and *Streptococcus longus*.

(?) **Anterior Poliomyelitis.**—DR. T. R. WHIPHAM showed a girl, aged 7 years, who presented an atrophy of the muscles of the forearms, especially on the left side. The wasting was more marked in the flexors than in the extensors. The hands were small, and there was marked wasting of the muscles of the thenar and hypothenar eminences. The interossei were also affected. The reflexes and sensation to all stimuli were normal. The upper arms were unaffected, and there was no abnormality elsewhere. The condition was first noticed when the child was three months old, and did not seem to have progressed since. It was not ushered in by any illness. The patient was a full-term child and a vertex presentation. The labour was easy and without instruments. There were no other cases of muscular wasting or paralysis in the family.

**Deficient Foramen Ovale Septum.**—DR. ALEXANDER MORISON showed a specimen removed from a male child aged 5 months, who was admitted to



the Great Northern Central Hospital on April the 29th, 1912, suffering from difficulty of breathing, with signs of bronchitis and a systolic cardiac bruit. Bruit apical, loudest on left posteriorly. Also exhibited cantering rhythm at apex. Condition regarded as cardiac malformation. No cyanosis. Pulse-rate 132; rhythm regular. Respirations 32 to 38. Temperature normal. Death on May the 29th, 1912. Necropsy the same day. Organs generally presented no abnormality beyond passive congestion. Lungs showed scattered broncho-pneumonia patches with collapse. Heart: All the chambers were enlarged and hypertrophied; this most marked in right auricle, which exhibited the somewhat rare abnormality of deficient septum, as distinguished from patent foramen ovale; that is, the whole auricular septum below the normal upper level of the foramen ovale was absent, the lower edge of the short curtain running from the mouth of the coronary sinus to the septal line. Thus, what has sometimes erroneously been called a largely patent foramen ovale existed. All the cardiac valves were normal. The ductus arteriosus was patent, the pulmonary artery normal, and the aorta, in a minor degree, hypoplastic, but furnished with its normal complement of valves.

Professor Keith states in his Hunterian lectures on cardiac malformation, based upon the examination of a large number of specimens collected from the London hospitals, that he had only observed this defect in five cases, and mentions the fact that the Royal College of Surgeons' Museum does not possess an example.

**Tuberculous Right Kidney from a Child aged 12 months.**—Dr. EDMUND CAUTLEY showed a specimen. Such a marked example of the disease is uncommon at this early age. It came from a girl, who was born on September the 22nd, 1911, and died on October the 14th, 1912. She was the seventh child—three having died—of apparently healthy parents, and had been breast-fed for eleven months, and then brought up on milk and a proprietary food. At six weeks she had bronchitis. Previous to admission to hospital on September the 23rd she had had pertussis for three months and she still whooped. For two weeks the breathing had been more difficult. She took food badly, vomited on cough, and had a daily action of the bowels. Examination revealed a large, soft, tense, elastic tumour in the right lumbar region, extending down as far as the anterior superior iliac spine, and pushing the liver forward and to the left. The liver, especially the left lobe, seemed enlarged. The spleen was easily felt. A few small glands, anterior to the tumour, were distinctly palpable. The child was much wasted, had four teeth, and was slightly rachitic. No pus or tubercle bacilli were found in a catheter specimen of the urine, and von Pirquet's reaction proved negative. The tumour increased rapidly in size, and presented a soft, fluctuating swelling over the end of the last rib. An incision was made in this region and about 14 oz. of sweet, sterile pus evacuated. Death ensued a few days later from asthenia. The temperature was irregularly febrile throughout.

The case was admitted as one of renal sarcoma. Alternative diagnoses were tuberculous kidney, pyonephrosis, perinephritic abscess, and localised tuberculous peritonitis.

Post mortem there was found extensive caseation, not breaking down, of the anterior half of the upper lobe of the right lung, and two small, softened, caseous bronchial glands, as well as some other small caseous mediastinal glands, but no general dissemination. The liver and spleen were enlarged.

There was no peritonitis. The right kidney was much enlarged and the upper half extensively caseous. It communicated with the remains of a post-nephritic abscess-cavity. Two mesenteric glands were markedly caseous and a few others distinctly enlarged.

**Notes on a Case of Precocious Development in a boy, aged 6 years, with photograph.**—Dr. E. C. WILLIAMS (v. page 529).

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## Philadelphia Pediatric Society.

October the 8th, 1912, THEODORE LE BOUTILLIER, M.D., President.

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**Diabetes.**—Dr. G. VICTOR JANVIER showed a girl, aged 6 years, with diabetes, who had been observed at the Children's Dispensary of the University Hospital off and on for six months. The original diagnosis had been made at some hospital in New York in September, 1911. She gave the typical history of intense hunger, thirst, enuresis, nervousness, restlessness and languor. She was pale and much emaciated, her abdomen was distended and tense, with spleen just palpable. She weighed  $37\frac{1}{2}$  lb. Upon small doses of Epsom salts and an attempt at a rigid diet her weight fell to 35 lb. Examination of the urine showed 16 per cent. sugar, but no acetone or diacetic acid. Dr. Janvier emphasised the almost invariable hopelessness of juvenile diabetes, in spite of every measure. There was no hereditary taint or family idiosyncrasy. Diet was impossible, as the mother was most ignorant and unwilling and the home surroundings were hopeless.

Dr. R. S. McCOMBS spoke of a family in which two children were affected by diabetes. One died at the age of seven years, and at the present time one aged five years was affected. There was a history of diabetes in the mother's family. Heredity seemed to be a causative factor.

Dr. J. P. CROZER GRIFFITH said that in his experience these cases had almost uniformly been unfavourable. He recalled only one favourable case in which sugar disappeared from the urine while the child, aged 5 years, was taking antipyrin. He believed diabetes to be probably more common in infancy than was realised. He spoke of a case of glycosuria in a baby of 3 months with an intra-cranial tumour. He also referred to a case in a baby aged 17 months, in which the condition was discovered accidentally by the examination of the urine.

Dr. JANVIER, in closing the discussion, emphasised the importance of routine examination of urine in children, and also the importance of always differentiating between a diabetic glycosuria and true diabetes.

**Intussusception.**—Dr. W. ESTELL LEE showed a baby, aged 6 months, who had been operated upon ten days before. Dr. Howard Childs Carpenter, who referred the baby to the surgical service of Dr. Edward B. Hodge at the Children's Hospital, gave the following history. He saw the baby September the 26th. A healthy breast-fed baby had been taken suddenly ill on the 23rd, with vomiting, diarrhoea, prostration and slight fever. From September the 24th to the evening of the 25th the bowels had not moved except for the passage of blood, and the child had vomited repeatedly, and was

greatly prostrated. During the night vomiting entirely stopped and the baby had two good-sized bowel movements of semi-liquid fæces, without blood. As the baby did not look ill and abdominal examination was negative, diagnosis of spontaneous cure of intussusception was made. At six o'clock that evening all symptoms suddenly returned. The infant was greatly prostrated, vomited profusely, and passed fresh blood from the rectum without fæces, but with considerable tenesmus. Rectal examination was negative, but a tumour could be palpated in the right side of the abdomen, principally in the right upper quadrant. Diagnosis of recurring intussusception was made and the child sent to the Children's Hospital for operation. On admission the child was in remarkably good condition; fæcal vomiting, bloody discharge from rectum and palpable tumour in the right upper abdominal quadrant were present. At the operation, at nine p.m. the same day, the tumour was found to be an intussusception of the ascending colon, three inches long, with about an inch of the appendix protruding from the neck of the intussusception. Slight traction by Dr. Hodge to the neck and pressure upon the apex easily reduced the intussusception. A suture was then passed through the base of the cæcum and the parietal peritoneum of the right lower abdominal quadrant. The abdominal wound was closed with through-and-through silkworm-gut sutures and a continuous catgut fascial suture: time, twelve minutes. Morphia was given immediately after operation; nothing by mouth for twelve hours, then albumen-water and condensed milk. The third day the bowels were opened with an olive-oil enema, after which breast-feeding was resumed. The baby had remained well since.

**Abdominal Tuberculosis.**—Dr. HORACE J. WILLIAMS, by invitation, showed this child.

Dr. LEE said that when he saw this child there had been complete intestinal obstruction, probably due to adhesions between the abdominal mass and the bowel, which was bent upon itself. These symptoms had wholly disappeared now.

**Alopecia Areata.**—Dr. MARIANNA TAYLOR showed an Italian child, aged 5 years. He was breast-fed, but had had convulsions at seven months when teething. The family history was absolutely negative, except that a paternal uncle suffered from a similar condition, dating from trauma. Three years ago the boy fell, striking the back of his head, producing a scalp wound. His hair came out gradually, beginning at the margins, progressing steadily until absolutely none remained. He had already been treated with electricity and with stimulating applications with good results; but the condition always recurred after a few months. His scalp was bald and glazed; eyebrows lacking, but eyelashes present. General physical condition was good. A stimulating lotion containing cantharides and capsicum was prescribed, and later a chrysarobin ointment, gr. xx to the ounce. The hair was returning slowly under this treatment. The case was apparently trophoneurotic in type, the loss of hair having begun at the margins, not in patches as was nearly always the case.

**Gastro-enteritis with Interesting Complications.**—Dr. JOHN F. SINCLAIR reported this case, showing clinical and weight charts. The girl, aged 8 months, was admitted to the Babies' Hospital on July the 15th, with a diagnosis of ileo-colitis. She had always been difficult to feed, was



undeveloped, and had been having loose, green stools, with curds and mucus for five weeks. Fever had been noted. At the age of five months she had had pertussis. Various milk formulæ and condensed milk had been tried with indifferent results. Vomiting had been a prominent symptom from the first. During her two months in the hospital she developed cellulitis of the scalp, lobular pneumonia and vaginitis. She showed a marked tendency to subnormal temperatures. There were thirteen recorded rectal temperatures below 96° F.: four were between 95° and 96° F.; four between 94° and 95° F.; two between 92° and 93° F., and on three occasions the temperature could not be recorded on thermometers which registered temperatures as low as 92° F. Accompanying these periods of subnormal temperature the weight chart showed marked losses. The baby took its food poorly and did not even properly assimilate what was taken. Prostration was marked, and the infant appeared to be in a moribund condition. The treatment consisted in efforts to maintain body heat by every means available, appropriate stimulation and alimentation *per rectum* as well as by mouth. The ileocolitis was combated by an initial dose of castor oil followed by colon irrigations. Cellulitis of the scalp was treated by incisions and through and through drainage. Lobular pneumonia was combated with mustard paste to the chest and stimulation. Vaginitis was treated by douching with potassium permanganate. Feeding was begun with a 3-6-1 mixture on the second day, raised to a 3-6-1.5 mixture two days later. To this soy-bean gruel was added as the diluent after three days. On the sixteenth day a 3-6-2 mixture was attempted but was not well borne. Casein milk was then employed, beginning with three ounces every three hours, raising the quantity gradually to eight ounces every three hours. Eighteen days were required to accomplish this. On the twenty-fifth day one ounce of 20 per cent. cream was added to the twenty-four-hour quantity of casein milk. In twelve days this was gradually raised to two and a half ounces of cream. In all, casein milk was used for forty days. After that half milk was employed and the baby went home on a mixture of two thirds milk and one third water. The weight on discharge was practically the same as on admission. The baby was doing well at present and continued to gain in weight.

Dr. LE BOUTILLIER said that many infants ran subnormal temperatures—94° or 95° F.—this summer at the Babies' Hospital, when the malnutrition was very marked and the infant taking very little food, with almost total lack of assimilation.

Dr. ESHNER suggested that probably the temperature was lowest when assimilation was at its lowest, that it was not so much a matter of nutrition as of chemical and digestive activity.

Dr. SINCLAIR added that, while the pulse was weak and very feeble at times, it never went above 136; the baby, however, appeared to be dying when the temperature fell so low. These low temperatures always accompanied the greatest malnutrition.

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## Abstracts from Current Literature.

### Medicine.

**The importance of caring for deciduous teeth** (*Arch. of Pediat.*, 1912, xxix, p. 1).—**S. W. Van Saun**.—The statistics of the Reading Dental Society show that out of 1883 first-grade children between the ages of six and seven there were 2934 cavities in permanent teeth, 8311 cavities in temporary teeth, 717 putrescent pulps, 476 exposed pulps, 165 cases of malocclusion and 111 of mouth-breathing. Owing to diminished use of the teeth and of the olfactory sense there is a greater tendency nowadays to obstruction of the nasal tract with a deformity of the upper arch, which is best prevented by the preservation of the temporary teeth. Carious, deciduous teeth should be filled in the early stages of decay when the process is not painful. Nutritional disturbances are set up by inability to masticate, and the pathological processes may cause a temporary atrophy of the permanent teeth. It is true that children's food is largely carbohydrate in nature, but from the comparative anatomy of carnivorous and herbivorous animals it is clear that carbohydrate foods need more thorough comminution than any others. In human beings lacking molar teeth many starch grains are evident in the feces, and in those devoid of cuspids and bicuspid meat-fibres are present. After artificial replacement these fibres disappear. Therefore all the teeth are necessary.

CHRISTOPHER ROLLESTON.

**Primary gangrene of pharynx** (*Arch. ital. d. otol., rin., e lar.*, 1912, xxiii, p. 311).—**L. Leto** records a case in a girl, aged 4 years, who recovered after loss of the greater part of the tonsils and the uvula. Bacteriological examination showed the presence of streptococci, non-virulent for guinea-pigs. Treatment consisted in syringing the throat with 1 in 5000 potassium permanganate and applications of tachiol (silver fluoride) to the gangrenous area three or four times daily.

J. D. ROLLESTON.

**Some unusual cases of narrowing of the œsophagus in childhood** (*Arch. of Pediat.*, 1912, xxix, p. 485).—**J. L. Morse** describes three cases of the very rare condition known as congenital imperforation of the œsophagus. The first symptom noticed was an accumulation of mucus in the naso-pharynx, followed later by coughing and choking when the child was put to the breast, after which vomiting of milk and mucus occurred. Autopsy showed that the entire lumen of the œsophagus ended in a blind pouch about one third of the distance downward from the epiglottis. Beyond this a fibrous band extended downwards for 2 cm., at the end of which the œsophagus reappeared just before reaching the cardiac orifice of the stomach. The prognosis is hopeless.

F. R. B. ATKINSON.

**Pyloric obstruction in infants with muscular hypertrophy at the pylorus** (*Journ. Amer. Med. Assoc.*, 1912, lviii, p. 256).—**Lewitt** and **Porter** are of opinion that the type of vomiting in these cases has some prognostic value. Regurgitant vomiting or that which comes on during, or immediately after, a meal is more hopeful than the cumulative propulsive type. The two may occur together, but the less dominant the latter is, the more rapid is the cessation of symptoms. In the reports of cases the type of vomiting is seldom reported in detail, and the writers suggest that more

exact notes of the number of vomitings should be made together with the quantity ejected, its relation to the ingestion of food, and the appearance and odour of the vomitus. It is probable that in nearly all cases the vomiting at first is of the regurgitant type, and that cumulative propulsive vomiting develops coincident with dilatation of the stomach. The less severe the lesion, therefore, the longer is the time that will elapse before the stomach dilates and propulsive vomiting occurs.. T. R. WHIPHAM.

**Ulcer of the duodenum in a child a month old; death from intestinal hæmorrhage** (*Ann. de méd. et chir. Inf.*, 1912, xvi, p. 229).—Weill and Gardère found on post-mortem examination of this child an ulcer in the first part of the duodenum, just behind the pyloric sphincter.

F. R. B. ATKINSON.

**Malignant embryonal adenoma of the liver in the first year of life** (*Jahrb. f. Kinderheilk.*, 1912, LXXV, p. 690).—A. Peifer believes that in the liver of small children epithelial new formations can result from embryonal cells, and possess the power of becoming later liver-cells or epithelium of the biliary ducts. He describes a case in a child who died at the ninth month of carcinoma of the left lobe of the liver; on microscopic examination three kinds of cells were found: (a) embryonal cells, (b) liver-cells, and (c) biliary epithelium. At the time of development the author states there is no differentiation between these various cells, and that certain of them can undergo carcinomatous degeneration. He describes numerous cases from the literature to support his contention.

F. R. B. ATKINSON.

**Emotional jaundice in children** (*Thèses de Paris*, 1911-12, No. 34).—E. Valleix.—The thesis contains the histories of eleven cases, one of which is original, in patients aged from 4 to 18 years. Five were males, six females. Valleix's case occurred in a boy, aged 10 years, who was much frightened by being nearly knocked down by a bicycle. The next two days he vomited and had slight pruritis. On the following day the skin became yellow, the urine dark and the stools clay-coloured. The liver and spleen were slightly enlarged. Complete recovery occurred in a week. The condition has been attributed to a spasm of the bile-ducts, to an excessive secretion of bile (polycholia), or to a combination of these causes (*v. BRIT. JOURN. CHILD. DIS.*, 1911, VIII, pp. 224, 268, 325).

J. D. ROLLESTON.

**Differential diagnosis of abdominal pain in children** (*Centralbl. für Kinderheilk.*, 1912, XVII, p. 1).—H. Finkelstein draws attention to various diseases which may give rise to pain and suggest the diagnosis of appendicitis, which is not really present. (1) The pain is frequently not in the abdomen at all but is due to hyperalgesia of the skin reflected from the abdominal organs. (2) Neuralgia of the lumbar nerves due to spinal caries. (3) Fermentative dyspepsia. The pain is moderate, but frequently repeated; usually there is a sensitiveness to pressure along the whole colon, which is slightly protuberant. Motions occur twice or thrice daily, are lighter and softer than normal in some cases, markedly acid, and with a tendency to gaseous formation. Proper diet soon cures the condition. (4) Constipation. (5) Neuropathic children frequently suffer from abdominal pains for no apparent cause. These pains come on suddenly and pass off quickly; vomiting is rare. The recti stand out and neuropathic stigmata are



common. Suggestive treatment, massage, faradisation, etc., usually rapidly bring about a cure. (6) Small herniæ of the linea alba. It is rarely necessary to treat the hernia. (7) Stenosis of the bowel. In some cases only slight meteorism may be present, vomiting may be absent, and the general condition good; only the attacks of pain point to a serious disease. These cases are all cured after long treatment. The author considers the disease is often due to a passing disturbance, a result of peritoneal adhesions from circumscribed peritoneal tuberculosis. (8) Renal colic. This may give rise to abdominal pain, and repeated examination of the urine will be required sometimes for the purposes of diagnosis.

F. R. B. ATKINSON.

**Abdominal distress in children beyond infancy** (*New York Med. Journ.*, 1912, 1, p. 1140).—**Le Grand Kerr** finds that the majority of cases in which appendicitis in children is diagnosed are really cases of lobar pneumonia. The most severe type of abdominal pain is due to intussusception. Other causes which the author enumerates and briefly considers of abdominal pain are acute peritonitis, strangulated hernia, renal colic, distended bladder, lead colic, acute rheumatic fever, which in many instances first manifests itself by abdominal pain, and the gastro-enteric and nervous types of influenza. Chronic gastric dilatation is also a common cause, and is frequently undetected. Catarrh of the small or large intestine is the commonest of all causes, and the author emphasises the importance of examination of the abdomen in all cases of so-called "bilious attacks," as otherwise a case of appendicitis may be overlooked.

F. R. B. ATKINSON.

**Gastro-intestinal symptoms at the onset of tuberculous meningitis** (*Thèses de Paris*, 1911-12, No. 42).—**A. Provier**.—Gastro-intestinal symptoms are almost constant at the onset of tuberculous meningitis, the most frequent being vomiting and constipation. Only in rare cases does the disease run its course without any signs of digestive disturbance. The symptoms may simulate typhoid fever, colitis, or cyclical vomiting. There will be all the more likelihood of error if the child has had similar attacks before. Vomiting and constipation at the onset of meningitis are probably due to irritation of the vagus at the base of the skull. Diagnosis is best made by bacteriological and cytological examination of the cerebro-spinal fluid. The thesis contains the histories of twenty cases, eleven of which are original.

J. D. ROLLESTON.

**Anorexia nervosa in infants** (*Arch. de méd. des enf.*, 1912, xv, p. 180; and *Bull. et mém. Soc. méd. Hôp. de Paris*, 1912, xxxiii, p. 111).—**Buffet-Delmas** records a case in a male infant who from the age of twenty-two months was fed by gavage uninterruptedly for nearly three years. The total number of oesophageal feeds amounted to 2050. In the subsequent discussion **Hallé** spoke of an infant under one year who got in a terrible rage at the mere sight of food and had to be tube-fed for two months. **Comby** insisted on the necessity of gavage and isolation to effect a prompt cure in the anorexia nervosa of infants.

J. D. ROLLESTON.

**Rumination in children** (*Arch. de méd. des enf.*, 1912, xv, p. 768).—**J. Comby** describes five cases of this condition in children aged 39 months, 26 months, 4 years, 27 months, and 2½ years. He recommends the following treatment: Attention to the digestive tract by diet, slow mastication, and alkaline powders, as prepared chalk and bicarbonate of soda, plenty of fresh

air and hydrotherapy, and when the child is old enough, persuasion and psychotherapy.

F. R. B. ATKINSON.

**The large flabby abdomen of infants** (*Arch. de méd. des enfants*, 1911, xiv, p. 561).—**A. B. Marfan**.—This condition must be distinguished from the large tympanitic abdomen. One of its most striking characteristics is the more or less marked relaxation of the abdominal walls in contrast with the tension and hardness of the tympanitic belly. The author formerly thought that this condition was always preceded by serious and lasting digestive disturbance, but he now recognises that it may occur without any such marked disturbance or with merely a slight degree of atonic dyspepsia. It appears, however, most frequently in subjects who for some time have had relapsing gastro-enteric catarrh with more or less marked dyspeptic symptoms in the intervals, or else that kind of dyspepsia with repeated vomiting, obstinate constipation and retraction of the belly which is connected with congenital or spasmodic contraction of the pylorus, or with a more or less generalised spasmodic catarrh of the digestive tract. It is remarkable that when the development of the large belly follows these digestive troubles they become modified, the attacks of diarrhoea become less frequent and shorter, vomiting occurs less often and finally ceases, while at the same time the symptoms of atonic dyspepsia appear. But there are a certain number of cases in which the large flabby abdomen and the accompanying atonic dyspepsia are gradually developed without being preceded by any marked or lasting digestive trouble. At an early age the large flabby belly is only seen in the rachitic and in congenital myxoedema; it is soft and without tension or resistance; instead of a tympanitic note, percussion gives a low muffled sound, in certain areas sharper and of higher pitch. On opening such an abdomen after death the colon is seen to be more or less distended, the stomach often dilated, but to a moderate degree, and sometimes hidden behind the transverse colon; in some cases the liver is large and fatty; more rarely the spleen is enlarged together with the mesenteric glands. These changes may contribute to the large size of the belly, but cannot explain the entire enlargement. The chief factor in its production, however, is a lengthening of the small intestine. Thus its length may be eight times that of the normal height of a child of the same age, often more than nine times as long. The condition is quite distinct from that described by Bednar and Jacobi, in which the sigmoid flexure only is elongated from birth and thrown into folds. The walls of the intestines are often extremely thin, especially the muscular coat. The cause of this atonic lengthening of the intestine and flaccidity of the abdominal wall which together are concerned in the production of the large flabby belly is identical with the cause of rickets. That the rachitic syndrome can produce this atonic relaxation of the abdominal and intestinal musculature is not surprising, if we accept the fact that there is often, during the evolution of rickets, a more or less general muscular atony which is the ordinary cause of the retarded development in this disease. Once established the large flabby abdomen lasts for months and perhaps years. If the lumbo-abdominal perimeter be taken on different days there may be a difference of about 2 or 3 cm., but the soft diffuse tumefaction of the abdomen remains constant. The evolution of the large flabby belly follows that of the rickets itself; in some cases, however, it persists when the osseous deformities have disappeared, but in general after the fourth year there are no traces of it left except where there are marked tendencies to hernia. It is, however, more than probable that certain forms of dilata-



tion of the stomach, of enteroptosis and splanchnoptosis observed in the adult have their origin in a predisposition created by the former existence of a large flabby belly. M. Marfan proceeds to criticise M. Variot's opinions as to the production of this condition. This observer holds that the lengthening of the intestines is only apparent owing to the height of these children being below normal, but the author's observations refer to the normal and not to the actual height. M. Variot considers that the large flabby belly is met with in children who have been insufficiently fed, and under the influence of hunger suck their fingers to such an extent that they swallow a large quantity of air, which accumulates in the colon and distends it either wholly or in part (*see* BRIT. JOURN. CHILD. DIS., 1911, VIII, p. 505). M. Marfan, however, maintains that these distended segments of the colon, as seen by radioscopy, are equally met with in children who have not large bellies, and that it is difficult to understand how the inflation of a segment of the colon can produce a general swelling of the abdomen, flabby, soft and without tension, or how it can cause the concomitant flabbiness of the abdominal walls which is one of the factors which conduce to the formation of this particular kind of enlargement. Moreover, finger-sucking is of common occurrence and so is *aërophagy*; the abnormality consists in the retention of the air swallowed, and this is caused by some morbid condition of the intestinal walls; the *aërophagy* is only a secondary factor.

VINCENT DICKINSON.

**Recurrent vomiting** (*Journ. Amer. Med. Assoc.*, 1912, LVIII, p. 1538).—J. A. Storck states that he has seen twenty cases in the past thirty months. The ages ranged from twenty-eight months to fourteen years. Fourteen occurred between four and eleven years, four above and two below this period. Nervous phenomena were well marked in sixteen cases, ten of which were in girls. All but four were in neurotic families. In two an epileptic aura occurred at times. Among the neurotic cases family histories of joint involvement were obtained. Storck recommends alkalies in the treatment, especially bicarbonate of soda.

J. D. ROLLESTON.

**Cyclical vomiting with acetonæmia in infancy** (*Semana méd.*, 1911, XVIII, p. 732).—Martini reviews the subject in some detail, and describes the following case: A girl, aged 11 months, breast-fed, was brought to hospital with slight fever, wretched pulse, and smell of acetone in the breath. The smell was more marked on the next day, when vomiting commenced. This was frequent and without apparent cause. The urine could not be collected for analysis, but the odour of acetone could be recognised. During the two days there were no stools. There were no signs of rickets or other constitutional disease. All the organs were normal. The writer rules that the disease, though rare, is found in infants, and considers that the most characteristic sign is the smell of the breath.

M. D. EDER.

**A case of acetonæmia** (*Journ. Amer. Med. Assoc.*, 1912, I, p. 1194).—E. O. Houda operated on a boy, aged 15 years, for acute appendicitis. Forty-eight hours afterwards the patient became restless, his skin jaundiced and his breath of an ethereal odour. The urine had an acetone odour, and acetone, but no sugar, was found in the urine. Venesection was performed, 500 c.c. of blood withdrawn, and 500 c.c. of normal salt solution with 10 gr. of sodium bicarbonate injected. The patient did not rally, and six hours afterwards the injection was repeated, but with no better results. The



patient died in coma, with a temperature of 103° F. and a pulse of 140. The liver post mortem was large and of a pale colour.

F. R. B. ATKINSON.

**"Prune-juice" vomiting as a symptom of cyclical vomiting** (*Amer. Journ. Obst.*, 1912, LXV, p. 534).—**R. S. Morris** refers to the presence of prune-juice-like material in the vomit in cases of cyclical vomiting in children. He has seen it well marked in a few cases. It occurs after twenty-four to thirty-six hours of vomiting. Many points of blood changed to a brownish colour appear floating in the vomit, and these increase until the appearance of the matter expelled is wholly that of prune-juice. He recommends, as treatment for cases of cyclical vomiting, large doses of sodium bromide given as enemata, and as a last resort, morphine (gr.  $\frac{1}{32}$  to  $\frac{1}{16}$ ) hypodermically.

FREDERICK LANGMEAD.

**Creatinin and creatin excretion in recurrent vomiting** (*Amer. Journ. Obst.*, 1912, LXV, p. 376, and *Amer. Journ. Dis. Child.*, 1912, III, p. 209).—**J. C. Sedgwick** claims that in 1910 he showed that creatin is excreted by the subjects of cyclical vomiting, the first case passing 1278 mgrm. of creatinin and 49.9 mgrm. of creatin on the fourth day of an attack. Mellanby has confirmed this finding, and discovered a marked rise of creatin excretion two or three days before the attacks. He also found creatin to be constantly excreted between the attacks. Several new analyses bore out the truth of these findings. He records a table of analyses made in one case which shows, as did that of Mellanby, that the creatin metabolism—that is, the endogenous nitrogen metabolism—is abnormal in recurrent vomiting between the attacks as well as during them.

FREDERICK LANGMEAD.

**So-called delayed chloroform poisoning** (*Clin. Journ.*, 1912, XL, p. 113).—**Edred M. Corner**, in a lecture delivered at the Hospital for Sick Children, Great Ormond Street, gives the results of an inquiry into several cases, thirteen of which ended fatally. He believes that it is impossible to give an accurate prognosis, but the progress of the cases seemed to bear a distinct relation to the action of the bowels or to sickness, suggesting that by these means the patient was getting rid of some of the poison. An investigation into the possible ætiology gave the following results: (1) It can occur after the administration of pure anæsthetics. (2) The duration of the anæsthesia, and therefore, roughly, the quantity of drug employed, does not exert any obvious influence on the incidence of the disease. (3) The nature and duration of the operation apparently has no effect. (4) The presence of a septic focus in the body before operation is more important in this regard than suppuration after operation. (5) A marked fatty condition of the liver is a constant feature in cases which come to autopsy, but histologically no essential differences can be detected between these livers and other fatty livers. (6) The frequency of acetonuria was inquired into, and it was found that mere admission into hospital produced acetonuria in 36 per cent. of children. In another series it was found that if glucose were given about 32 per cent. developed acetone in the urine, whilst of those who had no glucose acetonuria occurred in 34 per cent. After anæsthesia no less than 72 per cent. developed acetonuria. Further, if glucose was administered 70 per cent. developed acetonuria, if it was withheld 73 per cent. developed it. (7) With regard to the anæsthetic employed, chloroform alone was followed

by acetonuria in 67 per cent., chloroform mixed with ether in 86 per cent., ether alone in 66 per cent. (8) Delayed chloroform poisoning is more frequent in children between three and eight years old. (9) The administration of subcutaneous injections of atropine before anaesthesia to prevent the formation of mucus in the mouth and the subsequent absorption of the drug swallowed has no influence in preventing the symptoms. (10) No patient who had already had acetone in the urine before the anaesthetic was administered showed any recognisable sign of increased intoxication. (11) The injection of morphine and atropine three quarters of an hour before the operation had been found to be very successful.

FREDERICK LANGMEAD.

## Ophthalmology.

**The prevention of blindness and the instruction of the blind child** (*Med. Record*, 1912, I, p. 827).—G. E. De Schweinitz pointed out that ophthalmia neonatorum was a potent aetiological factor in blindness. As regards prevention, education was most important, and legal enactments to control ophthalmia neonatorum should be rigidly enforced. As to the care of the blind child education should begin early. The author urged a more thorough study of pupils in institutions for the education of the blind, and urged also that this kind of education would be materially helped if there was an appeal to the principles of modern psychological research. Such psychological researches might furnish certain data which would help to solve the vexed question as to the best alphabet for the blind, and would certainly help to decide whether the mentally deficient or the backward blind child should or should not be included in the general classes of blind children. Several other points in connection with the education of the blind are discussed.

J. ALLAN.

**Visual acuity and the Montessori method of instructing children** (*Med. Record*, 1912, II, p. 57).—S. H. Brown briefly reviews some of the more prominent features of Mme. Montessori's method of instructing children, and then shortly discusses to what extent a system of this character would interest ophthalmologists, physicians, and those having to do with child culture institutions. Systems such as Mme. Montessori has devised do not exact any very great strain upon the eyes, and thereby such systems enables us properly to develop the visual acuity in children who may be suffering from errors of refraction and undeveloped retinas.

J. ALLAN.

**A case of congenital deficiency of cilia and intermarginal area of both lower lids with distichiasis** (*Ophthalmic Review*, 1912, XXXI, p. 138).—H. M. Traquair.—The patient, a youth, aged 18 years, applied for advice on account of a feeling of irritation in his left eye, which had troubled him occasionally for about a year, but had recently become worse. He had never previously had anything the matter with his eyes or lids. At the first glance there appeared to be entropion, but on closer inspection it was evident that the lower lids were malformed, as neither cilia nor intermarginal area could be seen by the naked eye. Only after careful examination with a loupe could the condition present be satisfactorily determined. Put shortly, the conditions present constituted almost complete absence of cilia and intermarginal zone together with a minimal degree of distichiasis

in both lower lids. The upper lids were well developed, and no other abnormalities were present. Inspection of the eyes of the patient's father showed a similar condition, only less marked, and inquiries elicited that "small and tender eyes" were a feature of the father's side of the family.

J. ALLAN.

**Congenital ptosis with associated lid movements of the affected eye** (*Ophthalmic Review*, 1912, xxxi, p. 172).—J. E. G. Thomson and W. C. Souter.—The patient was a bright, keen intelligent girl, aged 9 years. At rest and on looking forwards she shows a slight degree of ptosis of the left upper lid, the lid margin being on a level with the upper margin of the pupil, while the right is about 2 mm. above the upper margin of its pupil. Almost the whole of the left lower corneal margin is seen, but not that of the right. On opening the mouth slowly there is a very faint upward jerk of the left upper lid—this is not quite constant—but on opening the mouth rapidly there is a more obvious upward jerk, not quite constant, disclosing often the upper corneal margin, but not always so much cornea. The lid readily droops again. On working the jaw to the right, however, there is a very marked upward jerk, so that 2–3 mm. of sclera are seen above. This is well sustained and is constant, but is more obvious still when she also looks down, at which time 6–7 mm. of sclera are visible above the upper limbus, while the upper one fifth of right pupil is still covered by its lid. This exaggerated movement is noted when she looks down or converges, with the jaw pushed over to the right, and is almost absent on lateral movements of the eye to the right or left, while it is quite absent with upward movements of the eyes. On working her jaw to the left there is no movement of either upper lid. The authors detail other conditions which give rise to lid movements. There is no facial asymmetry, she has no congenital anomalies, such as nævi, moles, extra digits, supernumerary auricles or club-foot, but over the ulnar side of the extensor aspect of both elbows there are several long, downy hairs, measuring one inch in length. Her feet are always sweaty and cold. She can voluntarily spread out her toes fan-wise, and can make the fifth toe overlap the fourth. There is no history of such a condition among antecedents. The mother has congenital dislocation of both hips, but is otherwise strong and healthy. As the child is illegitimate the authors have found difficulty in tracing the family history. The article is illustrated by four excellent photographs.

J. ALLAN.

**Acquired ocular palsies in children. ? Heine-Medin's disease** (*Hospitalstidende*, 1912, LV, p. 854).—K. K. Lundsgaard, in the course of two and a half months, had seen five cases in children respectively aged 13 months, 3 years, and 4 years (three cases). In four the sixth and in one the third nerve were affected. In all the paralysis was preceded by a stage of fever or malaise, and in some by somnolence or gastro-enteritis. The sister of one patient had a febrile attack followed by loss of power in the right leg of some days' duration. The play-fellow of another child had some meningeal symptoms which disappeared in a few days. Acquired ocular palsies in children are rare. Diphtheria and influenza could be excluded, and it is probable that these cases were connected with a simultaneous outbreak of poliomyelitis (*cf. BRIT. JOURN. CHILD. DIS.*, 1911, VIII, p. 145). J. D. ROLLESTON.

**A case of recurrent ophthalmoplegia** (*Austral. Med. Journ.*, 1912, I, p. 579).—J. J. Macmahon narrates the case of a boy, aged 10 years, in



whom two attacks of vomiting at intervals of three months were accompanied by complete ptosis of the right eyelid, marked external squint, and a much dilated right pupil. The ophthalmoplegia gradually improved, but had not completely disappeared at the time of publication.

F. R. B. ATKINSON.

**A severe case of buphthalmos relieved by operation** ('*Ophthalmoscope*,' 1912, x, p. 261).—P. H. Adams first saw the child when she was about four months old. There was then well-marked buphthalmos in both eyes, the left eye being the worse. Both corneæ were steamy, the anterior chambers deep, and the pupils small and apparently irregular. Tension: Right eye  $+ \frac{1}{2}$ , left eye  $+ 1$ . There were, apparently, large vessels running over the irides, and it was concluded that the glaucoma was in this case probably secondary to an intra-uterine inflammation, but, as dilating the pupils increased the tension, eserine was prescribed. At this time the child would follow a light with her eyes. The left eye did not improve, and so an operation was undertaken. The eye was trephined at the lower margin of the cornea and a large piece of iris was removed. Practically the same operation was done on the right side two weeks later. The tension in the left eye increased again and the cornea became rather steamy, and so the author performed a Herbert's flap operation on the outer side. When seen at the beginning of this year the child was found in a satisfactory condition. Both corneæ were quite bright, and the child could apparently see well with both eyes. With the ophthalmoscope the left disc was seen to be cupped, but of fair colour. Both eyes were myopic. Tension normal.

J. ALLAN.

**Amaurotic family idiocy** ('*Liverpool Med.-Chir. Journ.*,' 1912, xxxii, p. 308).—F. J. Baidon records the first instance known to him of the disease occurring in twins. The father had had a large family by his first wife, and the twins, females, were the first children by his second wife. The symptoms first appeared at the end of the second year, and both died one within a month of the other, before the end of the second year. The fundi showed the characteristic changes.

J. D. ROLLESTON.

**Six cases of progressive infantile familial amaurotic idiocy** ('*Jahrb. f. Kinderheilk.*,' 1912, lxxvi, p. 58).—H. Kowarski has seen twelve of these cases in two years and describes six others.

F. R. B. ATKINSON.

**Tumours of the brain in children: Tumor cerebri in a girl, aged 5 years, with amaurosis due to atrophy of the optic nerves** ('*Arch. f. Kinderheilk.*,' 1912, lviii, p. 307).—W. P. Shukowsky and A. A. Baron describe a case of glioma of the brain, almost the only symptom of which was progressive optic atrophy, which led to complete blindness a year before death.

F. R. B. ATKINSON.

**Phlyctenular ophthalmia and its ætiology** ('*Journ. Amer. Med. Assoc.*,' 1912, lix, p. 1002).—H. Dickson Burns has studied this disease in negroes more particularly and finds they are especially liable to it. He regards it as a neuropathic phenomenon brought about by an auto-intoxication originating in the majority of cases in derangement of the gastrointestinal functions and not as the effect of a specific toxin like tuberculosis.

F. R. B. ATKINSON.

**Tuberculosis of the iris** (*La med. de los niños*, 1912, XIII, p. 115).—**Gelabert** saw a child with three tubercles in the left cornea who improved rapidly under local treatment and injections of Fraisse serum. Shortly afterwards a tubercle the size of a pin's head was noticed in the iris which soon involved the whole iris; three weeks later there was complete loss of sight in the eye, which had to be enucleated. This was the only hope of saving an extension of the disease to the brain. The child has since remained well and is gaining weight. M. D. EDER.

**Tubercle of the choroid in tuberculous meningitis** (*Ophthalmoscope*, 1912, x, p. 559).—**W. B. Marple** emphasises the importance of repeated ophthalmoscopic examinations in cases of tuberculous meningitis, otherwise tubercle of the choroid will almost certainly be missed. The author has never found in cases of this nature evidence of exudation on Descemet's membrane, so commonly seen in some other varieties of choroiditis. With few exceptions the choroidal lesions in these meningitis cases have been small, miliary tubercles, round or oval in shape, rarely of an irregular shape, of a greyish or greyish-white colour, and usually without any pigment, as though the retinal pigment epithelium had been gently brushed away, leaving, as Carpenter and Stephenson call it, a "moth-eaten" edge. The tubercles are generally situated in the neighbourhood of the optic disc or yellow spot, within one to three disc diameters from the latter. Papillitis is met with in a fair proportion of cases. In thirteen consecutive cases of tuberculous meningitis which have come under the observation of the author choroidal tubercle was found in all. In the investigation of such cases he strongly advocates the use of the electric ophthalmoscope. A coloured plate and two micro-photographs are included. J. ALLAN.

**Orbital cellulitis from disease of the superior maxilla in children** (*Journ. Amer. Med. Assoc.*, 1912, LIX, p. 1020).—**W. C. Posey** describes this condition in a female baby aged 1 year and in a child aged 2 years. Dead bone was found on operation and removed, drainage instituted, and recovery gradually occurred. F. R. B. ATKINSON.

**Affections of the contents of the orbit after tooth extraction** (*Ophthalmic Review*, 1912, XXXI, p. 160).—**Gutmann** describes three cases in which the orbital contents became affected in this way. The first was that of a boy, aged 12 years, who, a week after extraction of a right upper molar, had a rise of temperature (104° F.). He had bilateral exophthalmos and a great deal of reddish inflammatory œdema of the upper lid. In the palpebral and ocular conjunctiva there was brawny œdema rather than inflammatory injection. The globe was almost immobile. Transillumination showed darkness over the right frontal sinus, on opening which pus was found. No pus in ethmoidal cells. On lumbar puncture only clear fluid was obtained, but the case went on to a fatal termination, with rigidity of the head and high septic fever. On examination post-mortem pus was found in both orbits, rushing out when the roof was opened; on both sides the cavernous sinus was lined with purulent thrombi. Purulent pachymeningitis, particularly over the sphenoid; the pia and ventricles were not purulent. Further, there were abscesses of the lung, pleuritic effusion, and indications of a general septic infection. Evidently, then, a septic process had begun in the alveolus, whether initiated by the use of a septic instrument or by infection subsequent to the operation; this had spread along the lymph-

paths to the right frontal sinus and orbit, thence by septic thrombosis to the cavernous sinus and to the left orbit; meningitis and death had followed. The two other cases occurred in adults.

J. ALLAN.

**Hydatid cyst of orbit** (*Ophthalmic Review*, 1912, xxxi, p. 257).—**G. H. Pooley** reports this case in a boy, aged 7 years. When first seen the boy had marked proptosis of the left eye, the lids of which were red and œdematous; the ocular movements were not much impaired, the optic disc was pale and the vision was  $\frac{6}{80}$ . As the proptosis was increasing the orbit was opened and the cyst excised. Some fifteen months later there was a return of the proptosis, and two small cysts of similar nature were removed from the roof of the orbit. The cysts were examined by a pathologist and proved to be hydatid cysts.

J. ALLAN.

**Plexiform neuroma of lid and orbit** (*Birmingham Med. Rev.*, 1912, xx, p. 42).—**H. Eales** showed a child, aged 3 years, at the Midland Ophthalmological Society, with a congenital growth affecting the right lid, which was enlarged and ptotic, and orbital tissues, and in which hard cord-like masses could be felt. The right eye was enlarged and vision was apparently lost. On microscopical examination the cord-like masses were found to be thickened nerves.

J. D. ROLLESTON.

**The ocular complications of mumps** (*Thèses de Lyon*, 1910–11, No. 8).—**J. Troncy**.—Ocular complications in mumps are more frequent than was formerly supposed. The conjunctivitis of mumps has the following characters; it is usually bilateral, it affects the whole of the mucosa, is never purulent, and is often accompanied by chemosis and palpebral œdema. Keratitis is much rarer; as a rule it is slight, but it may leave opacities. Two varieties of iritis may occur; an acute form leaving no residues, and a chronic form diminishing visual acuity and giving rise to synechiæ. The most serious complication is optic neuritis, which often ends in atrophy. Dacryoadenitis may accompany or follow the parotitis or may even be the only manifestation of mumps. It is characterised by considerable œdema of the lids, especially the upper, and is often associated with chemosis. It is recognised by the existence of a small and tender swelling in the position of the lacrymal gland. Its duration is on the average two to three weeks. Resolution always occurs. Transitory palsies of accommodation and paralysis of the external or internal rectus have been recorded. By some writers they have been attributed to latent diphtheria. Rarer complications are hemeralopia, glaucoma with proliferative retinitis, and episcleritis. The thesis contains histories of thirty-three cases, two of which are original.

J. D. ROLLESTON.

**Vaccine treatment in ophthalmology** (*New York Med. Journ.*, 1912, i, p. 1202).—**J. H. Claiborne** describes a case of a child, aged 6 years, suffering from repeated crops of styes. A culture of *Staphylococcus pyogenes aureus* was made from the pustules and 400 million dead bacilli were injected in the arm as all other treatment had been found valueless. After the second injection the styes disappeared, but 200 millions more were injected as a prudential measure. A few months after the condition recurred, and the same treatment was repeated with the same result. About three months afterwards one styne appeared. The injections were recommenced and a cure seems to have resulted.

F. R. B. ATKINSON.



## Reviews.

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INFANT FEEDING. By CLIFFORD G. GRULEE, A.M., M.D., Assistant Professor of Pediatrics, Rush Medical College, Chicago, etc. Pp. 295, illustrated. London: W. B. Saunders, 1912. Price 13s. net.

WE find this volume to be excellently planned, clearly written and well published. The author is at variance with many of the usual American methods of infant feeding, and appears to be a whole-hearted supporter of modern German views. These are very clearly explained in a practical manner. The best feature of the book, indeed, lies in the fact that, in the ground covered, the teaching is quite lucid and eminently practical—most valuable attributes in any text-book. For instruction, however, in the use of special methods much in vogue in this country at the present time, the English practitioner would for the most part look in vain.

The section dealing with the feeding of infants suffering from various diseases is perhaps not so successful as the rest of the volume. R. M.

L'OSCILLOMÉTRIE APPLIQUÉE À L'ÉTUDE DE LA TENSION ARTÉRIELLE CHEZ LES ENFANTS. Par Mlle. L. KOESSLER. Paris: G. Steinheil, 1912.

THIS thesis is an exhaustive study of the blood-pressure in children as estimated by Pachon's oscillogometer. The first chapter contains general considerations on blood-pressure and the instruments used to measure it. In the second chapter previous work on the subject is discussed. The following chapters are devoted to the writer's personal observations on normal and sick children. Tables are given showing the normal tension as determined by the oscillogometer from one to fifteen years according to the age, weight and height.

In the classification of diseases the writer adopts Potain's classification of hypotensive and hypertensive affections, tuberculosis, typhoid fever, acute rheumatism and pneumonia being included in the former and nephritis in the latter.

A special section deals with the action of digitalis on the blood-pressure. Of special interest is a paragraph dealing with the blood-pressure of infants under one year, it being shown that sometimes very high records are obtained in enteritis and tetany, due to their being painful affections, accompanied by obvious signs of vaso-constriction. A useful appendix contains lists of normal records of the blood-pressure obtained by various observers. Brief histories of numerous cases are given, illustrated with charts. The thesis is an important addition to the literature, and should prove a valuable work of reference to those interested in sphygmomanometry. J. D. R.

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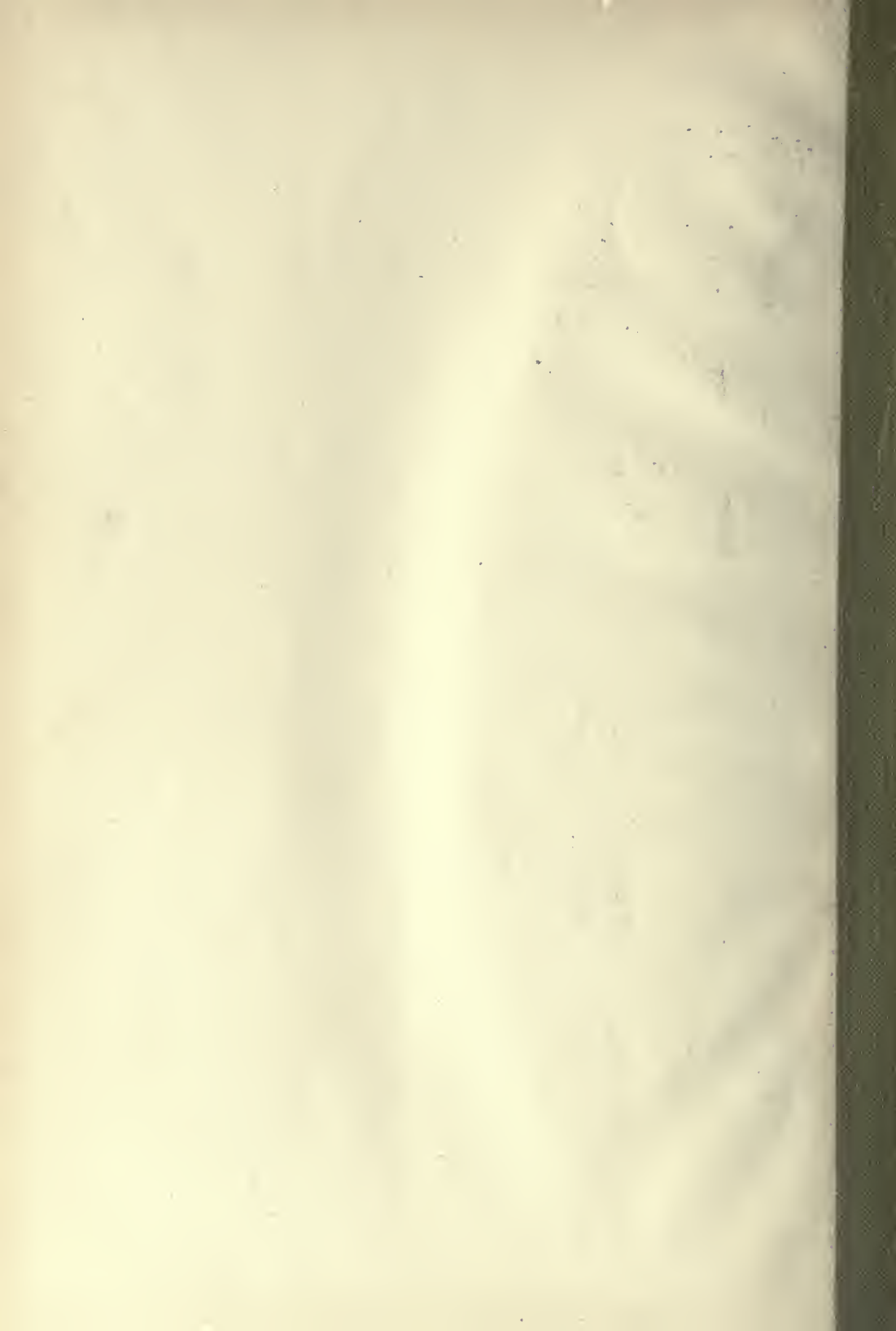
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